

MONTALBAN,

A

Tragedy,

IN

FIVE ACTS.

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PREFACE.

THE offspring of some leisure hours, during the summer and autumn of the present year, with the greatest deference, is submitted to the Public. A celebrated writer has observed, that information is to be gained from every thing: and when the candid reader shall regret the hour lost in perusing the first essay of a very juvenile pen, let him learn, at least, to avoid the storm, which threatens a little bark. The only apology the author can venture to make for his intrusion, is, that the temple of the Muses is so delightful an habitation, that to live in its most lonely and obscure corner, unknown, perhaps unnoticed, is a gratification, which those, who have experienced it, can alone explain.

December 14, 1811.

Dramatis Personae.

DUKE OF NORMANDY.
BARON LONGUEVILLE.
YOUNG LONGUEVILLE.
FITZOSBORNE.
CLIFFORD.
KNIGHT.
VALENCE.
BEAUCHAMP.
PRIAR.

Herald, Messenger, Vassals, &c.

LADY LONGUEVILLE.
LADY MONTALBAN.
ROSAMOND.

Attendant on Lady Longueville.

— — (Scene Normandy.)



MONTALBAN.

ACT I.

SCENE I.—*A Court in the Baron's Castle.*

FITZOSBORNE and CLIFFORD, *meeting.*

Clif. How fares my honor'd friend?—What, thoughtful!

Fitz. I pray thee, jest not. To day doth smell
Of yesterday, most villainously too:
Yet mine own service I'd almost forgotten.

(Salutes him.)

Clif. Oh, well, well.—How fares our lord, the
Baron?

Fitz. As all men fare, when they have done their
pleasure.

He still is sick, my friend: great Longueville
Pines on an easy chair, and cries aloud
For cordials and medicinal dainties,
To give new strength unto his body.

Clif. Thou speak'st in mystery;—pr'ythee explain.

Fitz. I am not gifted with the pow'r t'explain
Other men's minds; nor dare to understand
Another's conscience: I do know my own.
The king, that meditates his subjects good,
The king, that measures out with justice, mercy,
The king, that reigns within his people's hearts,
The king, that holds by right of law his pow'r,
And has not play'd the knave in getting it—
He feels a myst'ry;—myst'ries have their kinds.
Thou'rt noble, Clifford, or I do mistake;
For in these noisy times, by treach'rous deeds,
We know each other best. Eager we clasp
The hand of him we would destroy. We smile,
But in that smile we think of death.

Clif. Wherefore this doubting? Am I not the same;

Clifford; as I have ever been,—unchang'd?
Who often by thy side have spent whole hours
In fight and anxious midnight watching?
Who sav'd thee once from an uplifted sword,
That would have chas'd into its long abode,
Thy low'ring soul? The same, that from the battle
Unto the arms of her thou dearly loved'st,
At his life's peril, wounded, bore thee. Heav'ns!
Here satisfy your doubts (*presenting his bosom*).

—May I not know?

The secrets of thine heart? or, am I grown
So base, that, whom this arm preserv'd from death,
From honorable death, this heart could e'er
Betray?

Fitz. No more! thou hast forestall'd my
thoughts,
If thine ~~and~~ noble, we shall well agree—
Mine heart is full, and I will bring before
This noon-day light its sad contents, and give

Unto my friend their worthy keeping.

Clifford, my disposition ne'er could brook

A tyrant's sway!—Sixteen long years I've serv'd;

Forgive me,—we've both serv'd, this Longueville.

Each year the groans of war have dimm'd our
ears,

Till we forget our wives and children's wailing;

Our eyes do almost love an ugly sight,

And blood hath so enrich'd this territory,

The peasant's labor is almost supplanted;—

But 'ere the corn is ripe for gathering,

We reap it with our swords!—Strange tales have
birth,

And fly in every blast of wind, gaining

An access to our senses, prone to learn

The cause of such distracting wars. — Even
thus:—

Our prisoner Dennis, we remember well,

An honorable man, and high in our

Esteem;—the same declares that Longueville

Hath wash'd his hands too much in vital stuff:

This Dennis hath confess'd his own black crime,

But lays the instigation to the deed

On Longueville!—Too much we've felt his pow'r;

And though discretion bids us hold our peace,

Our natures must revolt at crimes like his!

Clif. This business we will learn by heart our-
selves;

We'll not confide to hear-say, but we'll sift

Each accident and strange occurrence

Unto the dregs, that naked to our view,

Having no hiding place, will lie before us.

If these reports be false, I'll draw my sword,

And make each lying traitor bow beneath

Its weight, if Heav'n but give me strength.

Fitz. If they be true, may some more virtuous
arm,

When I unsheath my sword for Longueville,
Make it a sheath again.—E'en thus I seal my pact.

Clif. Alike I swear. But see where Valence
comes,

A good old man, that fain would be at rest.
I'll speak to him——

(*Enter VALENCE.*)

Valence, how goes it with thee?

Val. Thanks to my friends, not quite as it
should go:

There was a time when I could arm myself,
And almost be a warrior; but now
I serve the Baron in his sickness.

Clif. How heard the Baron of his son? You
told,

As we instructed you, the fatal story.

Val. Scarce had I reach'd the presence of my
lord,

Whether my visage newly had put on
Th' exact resemblance of my knowledge,
I'm ignorant; but, starting from the seat
Of sickly state, with lynx's eyes he gaz'd
On me; then turning to his noble wife,
He stamp'd upon the ground,—tore off and rent,
With furious agony, his nursing clothes;
Then quick reviewing me,—but I am old,—
He swore I was a messenger of hell!

Fitz. (*aside.*) E'en in the beasts, that cringe and
crawl before

The greater beast, more wretched far than they,
There doth exist a supernatural
Instinctive pow'r, that bids them moan and weep,
Whene'er great Nature's tie is broken!

Clif. (*aside.*) Refrain, my friend;—of this here-
after.

How bore his noble lady this?

Val.

Indeed

Unlike her sex:—she gently chid her lord,
Said 'twas the part of folly to go mad
At Heav'n's afflictions;—vow'd she lov'd her child;
On bended knees she proudly hail'd his fate,
And, with an heroine's magnanimity,
She bless'd the hour that prov'd her son a warrior.
Then bade me tell the story of his deeds
Aloud, that she might still find cause of joy.
I did relate it all, no circumstance
Omitted, that might prove illustrious,
That honorable youth. E'en thus:—I told,
How that almost overcome by weariness,
He quick pursued three rebels to the wood,
That lay before him; where, being overpower'd,
Ye did believe him slain, — how that ye search'd,
Till to your sorrowing eyes there did appear
The marks of blood. — The Baron's reverie
To madness rous'd, — the lady bade me stop, —
Of grief had drown'd mine utterance; — he was
A youth respected and belov'd by all.

(Shouting is heard.)

Fitz. What means that shout?—they're common now-a-days.

Clif. Valence, know'st thou the cause?

Fitz. Some city burn'd,—
Some honest man despoil'd,—some rogue confirm'd
In villainy.

Clif. Let us retire and learn
The cause, — it seemeth of importance.

Fitz. Another shout! — Let my delighted ears
Again be rous'd by pleasant harmony.
Thanks,—many thanks,—how well do folk rejoice
When 'tis their livelihood.

(*Exeunt.*)

SCENE II. — *An Apartment in the Castle.*BARON (*solus*).

Bar. Oh, that this pleasing melancholy gloom
 Could shut the piercing-eyes of restless conscience,
 Or lull my soul's remembrance of its guilt,
 For one short hour into some silent trance,
 When nothing knowing, I could nothing fear.
 I've reach'd the fretful summit of my greatness,
 I've spent my life in climbing to the height,
 Nor car'd about the means, that led to it. —
 Till now, ne'er look'd behind me, nor perceiv'd
 How far beyond the goal of happiness
 My journey is; — nor, what space immeasurable
 Doth exist between Ambition's curse,
 And soft Contentment's blessing. — My son —
 Thou'rt gone to heav'n methinks! for thou wert
 good!

And if, from that bright eminence, thou can'st
 Behold the sinful ways of men, how must
 Thou mourn to see thy father trav'ling fast
 Unto the frightful gulph, that's far from thee.
 Nature, I am sure methinks hath cloth'd
 Herself with corp'ral being; — and each
 'Industrious and blood-stain'd weapon
 Arrays itself before me, stares in my face,
 Threatens, but kills me not: — My son! my son!
 Ha! — who dares disturb my quiet?

Enter LADY LONGUEVILLE.

Lady L. I dare.

Bar. (Woman, thou shew'st thy grandam, Eve,
 upon

Thy face. — Peace: — I'll hear thee presently; —
I'm weary, and must needs repose awhile. .

(*Lies on a couch.*) .

Lady L. (tauntingly.) Thy sickness is a mis-
begotten child, —

Th'offspring of fear, and not of too much labor. —

Sleep, sleep, — shut up thy senses, — lay aside

Th'incumbrance of thy state, so wearisome,

So full of care, and void of restitution. — :

Return again into thy low estate; .

The ruling pow'r accords not with thy meekness; .

Once more be that thou wer't, — be swift t'obey, .

And bend with reverence before thy lord, .

Swearing new-born allegiance. — Sleep on: —

Let hireling slaves, and each poor desp'rate
wretch,

That Nature makes to rouse the sleepy soul, .

Taunt thee with deeds of horror past, — bringing

Thine inmate witness to the public eye;

And, whilst confounding thee, seize on thine own,

So dearly purchased. — Sleep on, — repose.

Bar. My son! my son! . .

Lady L. What! shall a sick man's groan ;

Raise up the dead? My lord, come worship me;

For I have news to tell thee, that shall make

Thine heart reboted with wild enthusiasm, —

Thy very veins to spout, — perchance to clear

Thy brain of its incumbrance. — Longueville! .

Your son, my son, our son doth live, — he is not
dead. .

Bar. Oh! could'st thou prove to me the welcome
saying,

And once again restore him to me, — Lady, —

My strength, my pow'r, my soul at thy command .

Should crack its nerve-strings, and drink deep in
blood.

Lady L. Your son was rescu'd from rebellious
swords

By one, that in his count'nance bears the marks
Of greatness : — directly thou shalt greet him : —
But stay awhile, — I must say more. —

Bar. Thanks to the youth, his blood I will
enoble ; —

Thank Heav'n ; — but there my thanks are not ac-
cepted.

Lady L. Thou'st bought thy greatness at a pre-
cious price,

And being great, must heed full well its best
Preservance. — We've dy'd our hands with blood,
And having spoil'd our inward monitor,
Ourselves must dictate laws, or have no laws,
But such as mortal caution doth engender.

Bar. Oh, let me gaze upon thee, wond'rous
woman !

How quickly thou perceiv'st the hidden gulph,
That would ensnare th'incautious traveller
On a rough road, bestrew'd with ghostly horrors ; —
Yet do they pass away with thee, like smoke,
Or like a fester'd finger, for the which
Each quack doth know a remedy.

Lady L. My nature hath put on these many
years,

A desperate garb, but yet becoming : —
Remember we are not like common folk,
That live by manual industry, who toil
At an accustom'd labor, well knowing
How to act, — each hour's prosperity
Needing not counsel and protection ;
They sow, they reap, they thrash the yearly
corn,

Which being gorg'd, compels another harvest : —
But we, who live without the course of nature,

We, who do breathe by speculation merely,
 Who, by the workings of our senses, have
 Obtained greatness, and would fain preserve it,
 Must, like the sailor on a foaming sea,
 Look out, lest we be dash'd upon a rock.

Bar. Thou almost dost persuade me to believe
 That man usurp'd his sovereignty! What would'st
 Thou have me do?—Whom must I kill?—

Lady L. Dennis! that bold aspiring rebel,—
 Confin'd in this our castle's dungeon—
 He led the rebels on;—the chance of war
 Hath made him yours:—young Longueville is
 safe,—

Alive!—Baron—our lamp is trimm'd again!
 Dennis! well vers'd in plots and blood, has oft
 Endanger'd our well-being;—he, my love,
 That having serv'd us in great part to these
 Our honors, would seize on them for himself;—
 Who fills the credulous ears of listening crowds,
 With stories full of innocent blood.

Bar. Dennis in my pow'r,—say you so?

Lady L. Aye,—and waiting your pleasure.

Bar. My son alive, and Dennis in my pow'r!
 Had I a soul, that could devoutly pay
 Obedience to its Maker, and could feel
 A pleasure in the deed, I would pray now,
 When saw we Dennis last? I do forget.

Lady L. But I am gifted with a memory,—
 A subtle one too;—'twas on a black
 December night, when folk do gather round
 The blazing hearth, and tell of wondrous things.

Bar. I remember it; it is enough—

Lady L. By my life, each tittle thou shalt hear,
 That vengeance and destruction may be swift.
 When thy rigorous arm had laid Montalban low,
 And the fair sunshine of prosperity
 Just beam'd upon thy lowly head, having

The great Duke William for thy friend,
 In privacy thou did'st, by bribes of pow'r,
 Engage with him Lady Montalban's blood.
 He sought for her in yonder wood, where she
 Had fled for safety with her babes. Hark ye!
 Lady Montalban and his wife were sisters;
 They lov'd each other well. In his night-watch
 He heard a rustling in the trees, and quick
 Perceiv'd an image, like an angel, glide
 Before him: meditating blood, he smote
 The blessed image, and, to prove how well
 He had perform'd the deed, a ringlet from
 Her hair he tore, and from her finger wrench'd
 The loyal ring; then hasted back again,
 Swearing he had seen devils in the air.
 As I have told it, Dennis told it us;
 The ringlet and the ring belong'd unto
 The image, that he smote; that image was his
 wife.—

Desp'rate with grief and horror at the deed,
 He left your work undone, vowing 'gainst thee
 And thine, an endless warfare. Sixteen years
 Have roll'd away with leaden foot: some band
 Of rebels tutor'd in the killing art,
 Each hour, hath kept a constant flow of blood
 In this distracted land: quickly look to him.

Bar. I will look to him: first let me hail my
 son.

Lady L. I'll lead thee to thy child, and next,
 unto
 The other important object of our care.

[*Exeunt.*]

ACT II.

SCENE.—*The Inside of a Cottage.*LADY MONTALBAN (*sleeping*) AND ROSAMOND.

Ros. How sweet is Resignation's chamber!
 As the poor harmless sheep, that bleats aloud.
 For the tame offspring of her care and love,
 Torn by some bloody wolf, or butch'ring hand,
 By grief o'ercome, at length forgets to mourn.
 Rest gentle spirit, honour'd and rever'd,
 May Heav'n, that did permit thy cause of grief,
 Ere long transport thee with unlook'd for joys.
 She stirs; rest, rest again thou too fatigued
 Mortal body. Give me pow'r to chaunt
 Some sweet angelic sound, that may entrance
 Thy weary soul once more;—but 'tis too late.
 How fares my mother now? sure thou art better?

Lady M. (*she rises.*) Is my son yet return'd?—
 methought I saw him.

I am thy mother still, my Rosamond.

Ros. You slept compos'd, indeed your sleep was
 peace.

Lady M. My child, thou'st crown'd mine heart
 with more than peace.

Such pure unfeigned happiness ne'er fill'd

Your mother's bosom, since she thank'd Heav'n
 For you, its best, most amiable of gifts.
 May virtue ever shine before thee,
 Drest in the radiant garb of innocence :
 May just contentment bless thy lengthen'd years,
 And when the last dread hour shall visit thee,
 Oh may it find thee fitted for those realms,
 Where justice, truth, and love eternal dwell.
 Thou had'st a brother once, and I, a son,
 That would have guarded thee through all
 The mazes of a proud, deceitful world,
 Where Flattery sooths, and base Hypocrisy
 Belies the very image of our Maker.
 If he had liv'd, he would have clos'd mine eyes,
 And, ere I died, I had been happier.

Ros. Oh! say not so, or I, alas, too soon
 Shall follow him : perchance, my mother, he
 Is yet alive :— Something proclaims the hope
 Within my grief-worn bosom.

Isdy M. My child,
 It must not, cannot be ; for, if 'tis so,
 My son's undutiful : he doth forget
 His sister fatherless, his mother widow'd,
 Far better had it been if he had died
 When ignorant of the parental tie,
 Or, that he never had inha'd the breath,
 Th' uncertain breath of life, than having liv'd
 To know his duty, — to forget the best
 Performance of it. — No, my Rosamond,
 He's dead, — he's dead ; and for his virtue's sake,
 I will believe none other.

Ros. Can you forget those days of filial love
 And gratitude, when, 'ere the Sun had tipt
 Yon mountains brow, with golden streams of
 light,
 And, ere the cock's shrill clarion had proclaim'd
 Th' accusom'd warning of the day's approach,

Your son ne'er thought it labor to rise up,
 To bless the great Disposer of his lot,
 For all his bounties past, and those to come.
 That it had fall'n to him, by Heav'n's decree,
 To be the guardian of a friendless mother :
 Then, with a pleasing innate satisfaction,
 That the great trust he nobly had discharg'd,
 Would seek the little acre he possess'd,
 And all the day, beneath the parching sun,
 Contented with his gains, serenely mild,
 Would cultivate the soil he dearly priz'd :
 And when the Sun his daily course had finish'd,
 His much lov'd home, with eager step, would seek,
 And to his mother's use, would dedicate
 The goodly riches of his industry.
 Then, light with joy would sing an hour away,
 Then, wearied lie him down upon his bed,
 The ground, and soundly sleep till morn.
 Thus did he live to the last hour we saw him.
 Was this ingratitude? Indeed no man
 So quickly can be wicked !

Lady M. Heav'n grant all may be well !

Ros. All will be well :

Methinks that Providence would ne'er
 Take from us one, on whom we both depend.

Lady M. Who gavè us life, will feed us to preserve it.

Had earth no room for us, we ne'er had been.
 Alas, my son ! if thou art dead, truly
 Thou'rt happy now on high. Draw near, my child :
 Before thine infant mind could comprehend
 The blessings of a tender father, I,
 Your mother, sorrow'd for an husband :
 We both do sorrow now for one we lov'd.
 Sixteen long years, beneath this sorry hut,
 Here in this thicket, 'midst a barren land,
 Surrounded nightly by the forest beasts,

Seeking their bloody prey; and for our neighbours,
 A few poor hospitable peasants,
 We've liv'd secure from harm; we've liv'd, my
 girl,

Contented.—Beseech thee, mark it well,
 'Twill give thee peace of mind in after-times:
 Contentment is the corner-stone of life;
 Though thou art poorer than the poorest, being
 Contented, thou art richer than the richest.
 Weep not, my child, for I have buffeted
 The billows of my fate with constancy,
 And my soul still is pow'ful in th'extreme:
 But this frail body can no longer act.
 When I am dead, and dire necessity
 Shall bid thee wander o'er a barren world,
 Then will my lesson be of service to thee:
 One short word easily remembered:
 Do no one harm, though 'twere to make thee great
 And powerful:—Be just, be generous:—
 But though a kingdom as a bribe were giv'n,
 Preserve thine honor sacred from pollution:
 If thou wou'dst die in peace, take heed on't.

Ros. Thou'st nearly broken my weak heart!

(*An alarm of trumpets.*)

Lady M. A dreadful sound! more aching to my
 soul,

Than when the elements do rage with fire
 And thund'rings.—Ha, again! stir not, my child!
 Still thou art mine, and whilst the time permits,
 I'll hug thee to my bosom.—Again!
 Oh, what a sound of death! Oh, hellish mirth!
 How sweet the sheep's bell tinkles on the heath!
 Yet here will I fill up my fate's full measure.
 Take heed, my Rosamond,——

Enter BEAUCHAMP.

Beauchamp!

Beau. Oh, my mother! I have done a deed,
That shall to you, to us, to all bring peace:
No more shall poverty obscurely hide thee.—

Lady M. (with disdain.) Peace, wordling, peace!

Already thou hast drunk
Thy fill of vanity.—I thought thee dead,
And bless'd thy memory; but since thou liv'st,
Go, get thee to the world again; go, go.
To be obscurely poor is to be rich,—
And richer had I been without thee.
Oh, world! world!

How eager are thy votaries to grasp
At every slender branch, that raised them
Unto the summit of the precipice,
From which they fall into eternal ruin.
Fame, power, honor, riches, victory;
What are ye? tell me what hegets ye?
Ha! do not shameless rapine, murder, blood,
Your kinsman's blood, the blood of him, that lifts
Thee from thy low estate, and gives thee plenty:
Do not these proclaim thy parentage,
Thine honorable birth, thy great nobility?

Beau. My mother! —

Lady M. I'm not thy mother, nor art thou my
son.

He lov'd his mother well, was virtuous too;
Nor was he made of such inhuman stuff,
That gratitude could find no home in him.
But thou —

Beau. Oh, thou hast planted daggers in my
heart:

I am thy son;—give me that name again;
That name so grateful to my soul.

And I will forfeit all my honors, yet
 But in their buds: will tear the massy helmet
 From my head, my traitor-stained sword
 Shall fly its master, this resplendent garb
 Shall be as blighted corn unto mine eyes,
 These ears shall hear of war's alarms no more,
 Mansions of mighty bliss, and noble deeds,
 That I had fram'd upon my heated brain,
 Shall pass away, and be as dreams at night,
 That prove a bodily distemper, when
 We thus surmise of nothing and its kin.
 All these, and more I'll throw away as chaff,
 For Longueville no more shall welcome Beau-
 champ.

*Lady M. Longueville! (Confused) Longue-
 ville!*

Beau. Whose son this arm through Heav'n pre-
 serv'd, and robb'd

Th' accursed traitors of the precious spoil,
 That feebly did resist them.
 For as I journey'd homeward, the rude clash
 Of arms, that rent the air with horrible
 Confusion to my unaccustom'd hearing,
 Wrought such a world of courage in my breast,
 And such an easy fear of Death, that whilst
 Methought, the lion rous'd within me,
 No monster dar'd oppose without.
 With greedy steps the horrid acclamations
 I pursu'd, nor loiter'd till I reach'd
 The bloody scene, too bloody to relate—
 I quick perceiv'd th' unequal combat;
 Seizing the dastard sword of one already slain,
 I join'd in fight, nor knew for whom I fought,
 Till Heav'n's unerring Providence gave us
 The victory — three desp'rate traitor's felt
 Their merited deserts, — their carcases
 Lay grov'ling in the dust, distorted by

The Devil, that inhabited them.
 Faint with the loss of noble blood, I led
 The stranger onward to the nearest hut,
 Near unto which, the villains had seduc'd
 His valor, by retreating to the woods.
 There, being refresh'd, and having bound his
 wounds,

Astounding my weak sense, he did relate,
 How that some cursed band of desperate men,
 The slaves of passion and a lust for pow'r,
 Did well-nigh shake his father's great domain.
 Methinks, dear mother, I have heard before
 Of Baron Longueville; a mighty lord
 Indeed; great, pow'ful, wealthy, truly rich,
 Being possess'd of his good vassals' hearts,
 The only wealth a lord can rightly boast.
 Soon we espied the Baron's stately castle,
 And reach'd the welcom'd home, that vainly
 mourn'd.

Then, with an oath of frindship, thus he press'd
 Mine hand, and bade me ask whate'er he had
 To give: to serve him only I requested,
 And serving him, to take thee hence, and make
 Thee and my Rosamond happy.
 His noble mother did confess how great
 My service,—and the mighty Baron,
 Quite lost in exultation at his son's
 Deliverance, gave token of his joy:—
 He bade me live, and thrive beneath his care.
 Hither I hasted quick to greet thine ears,
 Nor would have left thee thus, in sad suspense,
 But for the saving of a noble youth.
 We will retire awhile.

(Ros. and Beau. retire to the back of the stage.)

Lady M. (pausing.) There lives a virtuous cou-
 rage in his breast.

Nor will I quench the gen'rous thirst for fame,
 In him, who is my lord's right lawful son,
 Who doth present unto my willing eyes,
 My husband's image. 'Tis not the time
 To bring those pains and pleasures that have pass'd
 Long since behind me, to my memory;
 But rather let me take good counsel,
 Of what hereafter may befall us.
 Yet where, alas! is all my wonted care?
 Why have I strove to shut him from the world,
 To blind his eyes against his father's fate?
 Why have I liv'd obscurely, and essay'd
 To wean the noble spirit of his sire,
 Into some base, some happy cottage life?
 'Twould not be kind to thee, Montalban!
 Thy son will ne'er feel comfort more, having
 Once tasted savage war's delights,—the same
 Deceitful greatness, that doth join itself
 To deeds of heroism!—
 Yet shall thy son be taught to know himself,
 And keep thy blood from impious servitude.
 Ne'er shall he kneel, except to pray, nor be
 At peace with him, who was at war with thee.
 (To Beau.) Did'st thou not say the people lov'd
 their lord?

Beau. It did appear so, for they shouted much,
 And fill'd the air with acclamations.

Lady M. Then be it so. I'll still be firm, and
 though

Each individual arm were rais'd against
 Him, to defend this Longueville, I will
 Instruct him in his father's blood,
 Will teach him to be wise in all his deeds,
 And will rely on Heaven to change the hearts
 Of the misguided people; yet, methinks
 It cannot be, that he, who got his power

So foully, thus can dim the eyes of men ;
Or change his nature, and do well at once !

(Takes a sword from a private place.)

A warrior's first possession is a sword ;
Beauchamp 'tis that that chiefly makes him great.

Beau. (anxiously.) 'Tis mark'd with blood !

Lady M. What, art thou still :

A novice in its use?—Why hang ye them
Unto your sides, but suddenly to obey?—
Swords live by blood!—their makers would be
beggars,

If mankind loved honesty——

Beau. 'Tis rusted on, and fain would stick to it!

Lady M. 'Tis a mark of its affection!

Beau. How came it yours?

Lady M. 'Twas made a present to me, Beau-
champ.

As it was giv'n, I have preserved it.

Beau. (shewing the blade.) Mother, whose blood
is this? 'twas deeply fetch'd

From its possessor.

Lady M. Baron Montalban's blood! my hus-
band's blood!

Thy father's blood it is, that gapes on you.

'Tis thine inheritance, I give it thee!

Beau. (pausing and confused.) Oh, 'tis a fortune
beyond estimation

Precious!—But tell me more! I am confus'd!

I know not what to say, to ask, or how

To make inquiry, lest mine ignorant ears

Should burst, and be for ever deaf!

Lady M. Rather have tenfold hearing, and thy
sense

So quick at comprehension, that each word

The merest sound, may bring into the tablet

Of thine eye, gigantic apparitions.

Beau. (*viewing the sword stedfastly.*) Ha! do I dream? methinks I see the coat Of Baron Longueville!—his very name!—

Lady M. Thy father's murderer!—he, he, my son,

Whom thou hast nobly serv'd at thy life's risk,
He, that promis'd to ennoble thee,
And welcome us! 'twas he! 'twas Longueville
Plung'd this (*taking the sword*) into thy father's
breast, and ran

Away with fear, leaving the instrument,
Of death behind, a witness of his guilt!
This Longueville he nurs'd, he cloth'd, and fed,
And thus he was repaid!—By right of service,

This was thy father's land, and should be thine.
The people's hearts were my lord's best possessions!

But, in his dying words he bade me fly!
Oh, Longueville! Longueville! from my soul
I do forgive thee, and omniscient Pow'r,
Whose mercy doth surpass created Heav'n
And earth in grandeur;—extending far
Beyond space infinite, shedding thy
Bounteous rays upon humanity,
Oh, pity and forgive him also!

Beau. Oh, if my tongue could give an utter-
ance

Unto the big disquiet of my soul,
I should fill Heav'n with sounds of grief,
And wage 'gainst this dissembling, monstrous
world.

Unceasing war! But deeds shall have the place
Of words, and prudence be my guide.

(*Resum'd faints.*)

Poor Rosamond ! it is too much for thee !

Myself must rest awhile, it bears me down.

Lady M. Lead her hence ; we will determine
on

Our future conduct, in this dread campaign !

[*Excunt.*

END OF ACT II.

ACT III.

SCENE I.—*A Thicket near the Castle.*

Enter FITZOSBORNE—BEAUCHAMP hastily meeting him.

Fitz. Whither so fast?

Beau. Sir, I have a mother!

Fitz. An happy mother, too!—she hath a son!
A virtuous, noble son!

Beau. Oh! that, that son
Could pay the debt he owes!—Mine heart is full!
Sir, I would kneel, and, with a fawning tongue,
My supplication urge, if charity
Had birth, only when Man ignobly prostrates,
Before his fellow, Man!

Fitz. Just now I saw
Thee horror'd.

Beau. 'Twas a most foul dishonour!

Fitz. To be esteem'd—

Beau. By knaves—is to be hated!

Fitz. To save the virtuous—

Beau. Is to do our duty!
Yet pardon me, if, in confused speech,—

Fitz. Enough!—What would'st thou, Beauchamp?

Beau. My mother!—
Some deeds there are, that Heav'n alone requites!
Some men there are, that have a Heav'n within
them;

A conscience nicely weighing their deserts,
Which, for each act, that dignifies the soul,
Doth intimate the Deity's approval!
Surely I see a kind benevolence,
That would bestow, e'er words, petitioning,
Had well explain'd their meaning.

Fitz. Amazement!—that, which I have,— I
give,—
If to do so be reasonable.

Beau. Oh, sir! 'tis most divinely reasonable,
Past expression,—true and worthy!
Angels must joy to see thee thus dispos'd!
And men must grieve, that scarce thou art a man!
All that my youth demands, what ere is good,
Or profitable for me to possess,—
My little knowledge,—all mine happiness,—
My resignation to my God,—good will
Unto my neighbour,—and, my peace of mind,—
Came from my mother only!—she gave all!

Fitz. 'Tis well, she has not given them in vain!
But quick, proceed: I would know all.—

Beau. That mother wanders far from home.—
Alas!—

She hungers, thirsts; she feels the piercing blast,
And has not where to taste of sleep! 'E'en so—
'Tis true, we're near the castle!—but we're near—
It must suffice,—thither she may not go:
Beauchamp forbids it!

Fitz. Haste thee away!
Tell her, Fitzosborne's gates will rather open
To virtuous poverty, than vicious grandeur!

It is his castle! say, he rules within it!

Beau. (*Falls on his knees.*) Pour down thy richest favours,—give him peace!

Fitz. (*Pauses.*) Thanks for thy pray'r.—Yet, how is this?

Beau. Oh, sir!—my friend,—be ignorant,—'tis wise:—

Wilt thou unto my mother? she sits,
Hard by, upon an oak, and calls on Heav'n
To witness that she's happy! [*Exeunt.*]

SCENE II.—*Another Part of the Thicket.*

LADY MONTALBAN and ROSAMOND discovered.

ROSAMOND comes forward and looks around.

Ros. My brother flies towards us!—he brings
A stranger with him, that wears a sword!
But yet he will not harm us: he looks kind.

Lady M. A stranger, arm'd! I had almost forgotten
The merchandize of Normandy.

Ros. He clasps
My brother's hand!

Lady M. Would that their hearts were clasp'd!

(*Enter FITZOSBORNE and BEAUCHAMP, hastily.*)

Fitz. Now thou hast prov'd me!

(*Discovers Lady Montalban.*)

Lady M. How fares Fitzosborne?

Fitz. Madam, when strange occurrence strikes
the heart,

Our utterance is often choak'd — Methought

Montalban's hopes died with him! Yet, I've heard—

Beau. It were an easy task to give them life,
And prove the cause of their mortality!

Lady M. It grieves me much, to see thee thus
distress'd!

No doubt thou'st liv'd most happily, since last
We saw each other?—'twas a sudden parting!
But business of high import caus'd mine absence!

Fitz. To see thee safe return'd with so much
wealth!

Yet I do err.—

Lady M. By Heav'n thou speak'st the truth!
Our lord, the Baron Longueville, is well?

Fitz. I know no Baron, but Montalban's son!
Madam, Fitzosborne knows his duty still!

Lady M. Oh, Sir! such truth I dare not ques-
tion;—

But I have heard a chorded instrument
So pleasantly delight the ear,—and seen
It touch'd so skilfully,—that I have dreamt
Of love,—and entertain'd my flutt'ring heart
With paradisiacal banquetting,
Till the oblivious harmony was lost,
And, in an instant, war had ta'en its place!
Then, ever and anon, the sembling trump
So terrified this self-same woman's heart,
Suspended, shrunk into the smallest span,
That, e'er the artifice confess'd itself,
The prowess of my sex was lost!

Fitz. It was a wondrous instrument!

Lady M. So richly manufactur'd,—blazon'd o'er
With gold, the strings so nicely drawn,—
Whether for soft enchantment, fear, despair,
Rank jealousy, invidious hate, or blood,—
To hear was to believe!

Beau. Thou art fatigued!

Fitz. Wilt thou to Fitzosborne's castle?

Lady M. Ask the proud mariner, already wreck'd,

To hie from danger, he will call the sea

His own; his birth-right; terrible, yet dear!

This fortune is mine own; e're we can part,

The spring of its existence—

Fitz. Must be crush'd!

Lady M. (*With disdain.*) Oh! big in words,
but bigger in offence!

Thou'st spent thy life in counselling thy friend,

And in a moment dar'st to counsel me!

Fitz. Lady! thou wrong'st me in the tend'rest
part!

Witness it! Heav'n!—

Lady M. (*With rapture.*) That was Fitz-
osborne's voice!

Bar. Oh, bless'd event!

Ros. We cannot thank thee
now.

Fitz. Thanks are as wafted bubbles in the air!

Lady M. Beauchamp! the Baron has not such
a friend!

Sir, I accept thine hospitality,

And, presently, my story will relate.

Fitz. We must away!— I know none other
guest! [Exeunt.

SCENE III.— *An Apartment in the Castle.*

The BARON is discovered. — Enter LADY LONGUEVILLE to him.

Lady L. Now does my lord? how have you
spent your time
Since yesterday?

Bar. Nobly,—nobly, good wife!—
 • For in each act, thy magnanimity
 Frequent, with frowns, chastis'd my dull delay,
 • Frequent, approv'd, what Longueville abhor'd!

Lady L. With precious care I've serv'd thee—

Bar. Thou'st serv'd me, lady, with officious care!
 In taking thee, I took thy service. . .

Of this no more. What would'st thou with me?

Lady L. Where slept that owl-fac'd Dennis last night?

Bar. Am I a child, that walks in leading-strings?

I know not. — Sleep!—why doth our nature ask
 For the same medicine, being indispos'd
 Or well? — Dennis 'ere this, my love, hath drunk
 The cup of death, and sleeps perchance in peace,
 Having full measure of repentance paid.
 To the just God, for all his early crimes,
 Silence! This morn I sweeten'd that, his thirst,
 Should have allay'd, with such a brimful cup
 Of hemlock juice, that, being drunk, he should
 Have offer'd up a sudden pray'r, for death
 Must follow quick upon the draught.

• *Lady L.* What, if he give the poison to a dog?

• *Bar.* Why, then the dog will die!

And e'en a dog's unnecessary death,

Hereafter will hang sorely on us!

Lady L. Thou hast a bearded face: therein
 mankind,

Th'acknowledg'd lords of earth, resemble thee!

But, if all-potent Nature on our brows .

• Doth stamp, in characters most legible,

The lively passions of the soul, I know

Thee, Longueville, full well! There was a time

When blood to thee, was like the morning air

To man, which, when inhal'd, doth give unto

The body appetite, for large devouring

But now, some sainted devil doth possess
 Thy brain, and proves thee double hypocrite!
 Thou can'st not to destroy thy prisoner,
 When ign'rant of the means, thou hast prepar'd
 Against him, but fear'st, as a man, to do,
 With jealous certainty, what must be done!
 Thou'dst kill him in the dark, but fear to see
 His blood. — My lord! how chang'd from what
 thou wert. —

If all the blood, which these our hands have spilt,
 Could rise, and make our vassals wise withal,
 Indeed, we should have cause to fear: but can
 A murderer's departed soul stir up
 The peaceful happiness of saints, to visit
 Earth again; or shall the blood of Dennis
 O'ertop the measure of our guilt? — My lord,
 He lives, — he lives, — nay, more! — I heard him
 groan

Some hour ago! I vainly hop'd each groan
 Had been his last, — but in a moment came
 A gust of vigorous life: — he knelt and pray'd! —
 Oh, look not thus: it was not heard by Heav'n!
 But such a noise in mortal ears, would raise
 A world of pity, — 'twould not suit us now.
 Thy nerves should have the fierce barbarian's
 strength!

Thy resolution be, as Scylla, fix'd!
 Thy joints, the tempest's strong velocity!
 Thou art too monumental, Longueville!

Bar. Methinks he's dead: — What would'st
 thou have me do?

Lady L. Do as the man that's hungry! — he
 doth kill

The beast o' th' field, — he feeds and is refresh'd!
 Be thou refresh'd with food surpassing whole-
 some,
 That will administer to minds disturb'd: —

A grateful antidote to apprehension!—
 Remember, whilst the serpent lives, his sting
 Lives with him. — Longueville, — haste thou and
 sec
 If yet he's dead: — if dead, — then cast his
 trunk
 Into the ground, the deed into the air!
 If he doth live; as cunning viper-catchers
 Wrench from the yielding gum, th' envenom'd
 tooth,
 Quickly dispatch the means of injuring us!
 Still will I hold thee in respect, and play
 The woman's part unto thine honor.

Bar. Thy minist'ring is like an opiate,
 Which, for a time, relieves the sick man's head,
 But afterwards the pain increases.
 Yet, be it so. This Dennis pricks my mind
 With horrible conjectures, and, anon,
 Reflecting on the past, methinks I see
 The future written in such legible terms,
 That the big ocean could not wash it out,
 Nor fire consume the smallest particle,
 So sure doth follow punishment on sin.
 Why should he live to add a grain, unto
 The scale already balanc'd against me,
 Or to endanger that, which now I hold?
 If he be dead, the less will be my fear;
 The less my trouble: — I am resolv'd!

Lady L. Now thou resemblest him I'd call my
 lord.

Bar. I shall receive to day my vassals homage.
 Sickness hath left me for a time. — To observe
 This holiday with a becoming splendor,
 It strictly doth behove us. — Be thou still
 Mine advocate for good: — after the court,
 Give us good merrymaking.

Lady L. I will, my lord. — The time is preci-
 ous!
 [Exeunt.]

SCENE IV. — *An Apartment in Fitzosborne's House.*

ROSAMOND *discovered.*

Ros. How slow the hours of late have roll'd
away!
Each promise doth bring forth some prodigy
So full of blood, that my weak heart almost
Forgets to beat, and play its office

Enter YOUNG LONGUEVILLE.

Young L. She weeps: — how sweet is innocence in tears!

Lady, may I be bold to ask your cause
Of sorrow, — I entreat thee tell me?

Ros. I mourn, my lord, for him I never knew!
The sad recital would renew my tears. —

Young L. Then tell it not: for I had rather
bear

The direst pang, that Providence afflicts
His sinful creatures with, than urge one type
Of sorrow from thine eye. — Yet am I come
In unpropitious time, though I esteem'd
It precious, to declare, how sharp the pang,
That tortures me. —

Ros. Art thou not well, my lord?

Young L. I'm sick, fair mistress, with a ma-
lady,

Which gives a pleasure, when it doth exist,
And joy unspeakable when rightly cur'd!

Ros. My lord! my lord!

Young L. Oh, call me not by that untoward name.—

Thy virtuous brother rescued me from death;
To him I owe my life: but 'tis to thee,
That I must look for happiness. Oh, turn
Not from me, thou incarnate angel,
For in my breast I feel thou reign'st supreme!

Ros. My lord! my lord!—this sudden passion—

Young L. Who could behold thee, lady, and
not love!

And who, that truly loves, can deal in words,
And let each passing hour, that should be made
The sudden instrument of some new pleasure,
Be dwindled out in fearful longings!

Ascribe my zealous urging to my love,

Ascribe my love to gratitude!

Ros. Spare those unwelcome words, my lord:

That I esteem thee for thy gratitude,

Heav'n be my witness; — but know, at once,

That nought can gain an access to my heart,

Until 'tis clear'd of a deep-rooted grief:

My lord, that grief thou can'st not move away;

Nor, if thou could'st, would I dispose of it

Without a parent's leave!

Young L. Oh, excellent!

Divinely fair! had words to make thee lovely

Been wanting, — I should be more convinc'd,

But, if that heart be not already giv'n,

Thus, on my knees, let me implore it of thee.

And if thou 'ere can'st find a man, that loves

Thee half as much as I, then give it him.

Ros. Urge me no more.—

Enter LADY MONTALBAN.

Indeed, my mother—

Lady M. (Seizes Rosamond's arm) Young man,
—there is a time to love, to mourn,

To be amazed!—and these do not agree.—
 There is a time when we must ope our eyes,
 And guard each avenue to fields of corn,
 Lest beasts should enter in, and root it up!—
 There is a time when virtue like thine own
 Is troublesome, when passion must give place
 To prudence!—I'd have thee think on't.

[Exeunt Lady Montalban and Rosamond.]

Young L. Hard-hearted mother of a cruel maid!
 Is it a sin to be awake to love?
*T*was wisely planted in us; and where'er
 It grows, sweet recreation to the soul
 It gives, and proves a rich possession!

Enter BEAUCHAMP.

Oh Beauchamp! let me clasp thine hand. Thy
 brow
 Looks sorrowful: but, if thou knew'st my woes,
 The same gigantic aid thou would'st bestow,
 To give me happiness, as when thou gav'st
 Me life! I'll tell thee honestly. I love,
 E'en to distraction love, thy sister! —
 Oh Rosamond!—In an unlucky hour
 I sought her to declare it;—she kill'd
 Me with a frown, and quick declar'd my fate.
 Thy mother found me wooing her;—she seiz'd
 Her by the arm, and, in an unknown tongue,
 Chastiz'd and left me. — Do I merit this?
 Why dost thou eye me thus? — Explain. —

Beau. I cannot listen to a flippant tale. —

Young L. Not hear me, Beauchamp? this from
 my friend?

Beau. We must rejoice to day. Beguile me not;
 The trumpets twice have summon'd us!

Young L. Can I rejoice when grief sits here?

Beau. I came not to bewail; I would have been

As harden'd as Montalban ought to be. —

Young L. Montalban! I have heard that name
before. —

Thou wer't my friend!

Beau. And will be true to thee. •

Young L. Oh Rosamond! — I'll to the castle.

Beau. Be not so sad: — I will attend thee. •
[*Exeunt.*

SCENE V.—*A splendid Hall in the Castle. — Music.*

*Enter BARON, FITZOSBORNE, CLIFFORD, YOUNG
LONGUEVILLE, BEAUCHAMP, LADY LONGUE-
VILLE, &c.*

Bar. Brothers in hearts, as well as arms, I
greet

Ye all. — To day your instruments of war
Must be hung up, and ev'ry valiant soul
Shall feel a genial recreation. —

Fitzosborne, — I regret that sickness, whilst
You conquer'd, conquer'd me. — I should have
seen —

Fitz. An argument in each man's face; and one
So clearly written, that, upon thine own,
The compound agitation of their minds
Would have been graven; — for, each dying wretch
Composedly resign'd his soul to Heav'n,
And in his death convinced thousands,
To die like him was to die happily!
So cunningly they play'd the traitor. —

Bar. Did they so?

Fitz. Nay, more, my lord!
For that same death made men to think —

Bar. No thoughts, good Knight; we'll feast
instead.—*Beauchamp—*
You had a mother?

Beau. And have one still.

Bar. 'Tis well! bid her to the feast.

Lady L. Be sure that you forget not. Tell her,
We earnestly request her company.

[*Exit Beauchamp.*]

Bar. The trophies of the sword must be ex-
pos'd;
But not the sword itself.

Enter BEAUCHAMP and LADY MONTALBAN.

Beau. Sir, my mother!

(*The Baron and Lady Longueville recognize
Lady Montalban, and are confused. After
a pause Lady L. recovers herself.*)

Lady L. 'Tis late, my lord, we must retire—

Lady M. (*Lady Montalban addresses herself to
the Baron.*) My lord, thou would'st have
all rejoice to day!

'Tis well;—but we must all have cause; the
heart

Cannot elate itself without new impulse!

Lady L. My lord, your guests do lack a mas-
ter!

Lady M. I grant, when victory crowns our coun-
try's arms,

And liberty and justice are the standards,

The Patriot's heart must feel its chief delight.

But when our battles are turn'd into games,

Where artful players only can succeed,

Why should we feast:—should we not rather
'fast,—

And hail the victor with a gloomy face?

Is it on blood, our country's blood, that we

Must gorge our dainty appetites :—to feed
On human flesh ; is it not beastly,—beastly ;—
Like wolves that fight, and prey upon each other,
And prove their jollity by hoarse alarms !

Lady L. We must away, my lord ! (*To Lady
Montalban.*) Another time !

Longueville ! the day grows late ! Why dost
Thou idly spend thy time ? (*To Lady Mont-
alban.*) Thou talkest madly !

Hast thou complaint to urge 'gainst any man ?

Lady M. Most monstrous ! I would petition
thee—

Lady L. Come then to-morrow : 'tis labor now.

Lady M. Do justice e'er thou feed'st ! To-mor-
row's offspring

May be laborious in th'extreme. Consider !

Lady L. We have consider'd ! we cannot hear
thee !

Fitzosborne, 'tis unwelcome !

Fitz. Justice will sharpen appetite !

Young L. Whence is the cause ?

Beau. . . . My lord, 'tis in good
hands !

Lady M. . . . I would hold up e'en Normandy
Itself, to Norman eyes, that they may learn
To appreciate the conquest ! The thief,
That robs his neighbour, should hang up, the
booty,

Unto the gen'ral view of thieves, and hail

The glowing emulation, that succeeds,

Till each man's property becomes another's :

Then, only then, the conquest is complete.

What, if I hold my trophy out ! Thou'lt hail

It as a damn'd one ! Most true, and, true ;

Yet it is also bless'd ! damn'd for its use !

Bless'd, because the victor won the sword,

That gave him death !

Vas. Madam, you must retire!

Beau. Officious slave! for injuring her, hadst thou

The mandate of the mightiest prince, (*draws his sword*) this sword

Should mock his pow'r, and hurl thee into Death!

This lady is my mother!

(*The Baron recognizes his own sword, and is confused; Beauchamp holds it over the Vassal, and Lady Montalban fixes her eye on the Baron, whom Lady Longueville endeavours to rouse.*)

Lady L. Now would the leading-strings befit thee well!

Pluck up, or everlastingly thou'rt lost!

Lady M. Oh, piteous sight! See how a crusted steel

Gives Conscience life and active being!

Put up thy sword? the drug hath work'd enough!

Bar. (*Rises hastily.*) "Wretch! get thee hence!

I'll not be bitten!

Longueville is still himself!

Enter a Messenger.

Mess. My lord, the next two hours will bring our Prince,

The Duke of Normandy, unto the castle!

Bar. The Duke of Normandy from England! He hath not left that untam'd people yet?

Lady M. The tiger must be tamed first,—the lion next!

Thanks for the news! Baron Longueville, I'll trouble thee no more! [*Exeunt.*]

ACT IV.

SCENE I.—*An Apartment in the Castle.*

Enter DUKE OF NORMANDY, BARON, and
FITZOSBORNE.

Duke. Baron, it grieves me much to find the
 hearts
Of those, I gave unto thy care, debas'd
By Treason's machinations! Longueville!
Where lives the spring of these calamities?
Come they from ancient laws ill executed?—
Untimely counsels?—Ministers corrupt?—
Or hireling Judges? Hast thou forgotten
That kings and peasants, rich and poor, all bear
The visible marks of frail humanity!
That, tho' a Prince's favors, and the chance
Of partial fortune, may uplift a few,
'Tis Virtue only gives true cause to feel,
And be esteem'd superior to the rest!
I made thee pow'rful, here, only to make
My people happy!—which, issuing
From thee, and thou from me, might prove my
 love,
'And add another jewel to my crown!

These jarring tumults have so long disturb'd
 My state of Normandy, that sudden peace
 Must visit it, or publish this to all!—
 That William, Duke of Normandy, will bring
 Such remedy with him,—as, by St. Michael!
 This remnant of his subjects will displease!
 Say! do these wars arise from selfish bands!
 That uncontrol'd, into the people's ears,
 Do whisper lies, and banquet them on blood,
 Ere they are hungry for 't? Baron!—I fain
 Would know each circumstance, that we may

~~quickly~~
 Apply some healing stuff unto this wound,
 That rots the heart!—Explain, my lord!

Bar. My Prince hath wisely spoken! For
 man,

His deeds and thoughts, are but as images
 Of costly marble, badly carv'd, that give
 Displeasure to our eyes, when they're beholden!
 Being a man myself,—if I have err'd,
 I ask forgiveness of my righteous prince!—
 Who hath declar'd, we all may err alike!
 If I have wag'd unnecessary war,
 To keep thy kingdom safe, then let me bear
 The burthen of my sin! He wars 'gainst God,
 Himself, and Man, who waits not for a peace!
 And each poor wretch, that he has caus'd to die,
 Will, in an after world, rise up against him!
 The widow's curse, like thunder, will resound
 In Heav'n; and orphan's tears, accusing,
 Will multiply his guilt and punishment!
 But, if to war I have preferred peace;
 And, with a faithful steward's care, have sought
 The people's quiet, and their Prince's welfare;—
 If I have minister'd the wholesome law,
 In its full essence, unto all that ask'd it,—

My bounteous Prince will be my judge and friend!

Duke. Nobly thou'st spoken, Baron Longueville!

Thou'st serv'd me frequently, and I confess
Myself in debt to thee!

Bar. Not so, my lord!

My duty only I have perform'd!

Tho', to my life's last pow'r, I'd grasp the sword
To punish him, who dar'd deny his Prince!

When first you laid your claim to England's
crown,

In right of your illustrious kinsman's will,
King Edward!—I assisted thee, in that
Most dang'rous undertaking, 'gainst a people,
Unmatch'd for valor, and the sacred love
Of liberty; for laws most wisely plann'd,
Equal in all their bearings, well defin'd,—
Needing not steel to give them force,—being
fram'd

By great King Alfred! whom hereafter times
Will almost venerate, howe'er his blood
No more will flow in England's royal veins!
But still thou art my royal creditor!

Duke. Give me thine hand. Surely these
Englishmen

Are richly worth the having for our subjects :
Truly weré conquer'd! but to gain their hearts,
Ourselves must be like them; or, it may chauce
Some other Alfred shortly will spring up!

Bar. Well nigh the rebels are subdued, my
lord!

And Normandy, 'ere long, shall be conceiv'd
The state most loyal to its Prince!

But, for each effort, to regain us quiet,

Thus let me press unto my bosom,
The chief endeavourer! Unto this Knight,

The subjugation of each lawless band,
Doth owe itself! My lord, I would say more,—
But must not!

Duke. Let me embrace thee also!
Fitzosborne! thy valor and renown, on wings,
Have long since reach'd mine hearing: now confirmed

By worthy Longueville's report, I hail
Thee Lord Montalban! presently thy service
Thou shalt perform! This title hath long time
Been extinct, and on me, by right, its rich
Possessions have devolv'd! All these are thine,
Save only this,—the Baron doth possess—

Fitz. Sufficient service lies not in my pow'r!
So much thy bounty doth exalt itself
Beyond the pinnacle of my deserts,
Or my ambition's largest promises!
The noble Baron, my most honor'd friend,
Commanded all in all;—'twas mine to obey!
Oft hath the valor of thine host bade shame,
And black despair, invade the traitor's ranks!
And, with a conqu'ring sword, to glut themselves,
Whilst courage, loyalty, and union,
Liv'd in our camps, and shar'd the battle with us!

Bar. Yet, notwithstanding this, it doth behove
My Prince, that mercy, the most Heav'n-like
virtue,

Which almost to the fountain whence it flows,
In majesty, doth liken its possessor,
Should be dealt out, e'en unto those, my liege,
That least do merit it,—that, when they feel
The goodness of thy bounty, strong remorse
May rend their souls, and suddenly bring back,
Unto thy love, each heart that went astray!

Duke. I do applaud thy noble sentiment!
 I have consider'd well; and it doth seem
 Most clear, that to invite, will oft'ner gain,
 Than to compel!—that error needs not blood
 To set it right! Baron, I am resolv'd!
 Summon an herald! It becomes thee well!

Enter an HERALD.

Proclaim thro' all the state of Normandy!
 That William, lawful Duke thereof, doth grant
 An universal pardon, unto his
 Misguided subjects!—bid them return
 To liberty, their confiscated homes,
 And all, that was most precious to them!
 Command the prison-doors be opened!
 Let the invigorating Sun again
 Shine on each dungeon'd wretch, that tears of
 joy
 May fill the furrow of each sorrowing face!

[Exit Herald.]

Bar. Wilt thou give liberty to all, my Prince?

Duke. Aye, all!—Would there were more to
 know thy care!

Let us to Lislebonne, dearest Lougueville!
 That city soon shall see Fitzosborne great!
 We will depart anon!

[Exeunt.]

SCENE II.—*An Apartment in the Castle.*

Enter the BARON, slowly leading in FITZ-OSBORNE.

Bar. Hast thou ne'er risen, on a summer's morn,
 Fitzosborne, whilst mortals, wearied with
 The load of yesterday, slumber, to make
 Them fitting for the labor of to-day,
 To smell each flow'r, that then an odour bears,—
 To taste the air refresh'd, and purified,—
 To hear each songster twitt'ring notes of joy,—
 To view each ear of corn, and blade of grass,
 And every leaf, that paints, in little grandeur,
 The great majestic ornament of Heav'n!
 That beans a show'rd of gold, e'er it doth deign
 To shew its face: Then what a sight is there!
 Nature re-kindled, and her veil shook off,—
 Sublimely beauteous, awful, gen'rous, just,
 Laden with life, it deals it out to all;
 And, tho' the battle bade thee rise so early,
 It gives delicious comfort to thine heart!
 Sick of night's contemplation, it bestows
 The perspicuity of day: and, like
 The change of garment to the body,
 With courage, nobly wrought, it robes the heart!

Fitz. Aye! aye! Full oft, my lord, I've pass'd
 the night,—
 And, leaning on my sword, have slumber'd out
 Some drear half hour! Nature almost subdu'd,
 The gladning dawn, and still more gladning
 sun,

Hath quick renew'd my strength, and render'd
me

As though I'd soundly slept.

Bar. Thou art some rising sun,
Having this vantage—that men, who see
Each day's revolving sun illumine Heav'n,
Esteem it common, and forget the Pow'r
Almighty, that gives it heat and light!

Fitz. My lord, thou art too lavish of thy praise:
Fitzosborne ne'er Montalban will disgrace!

Bar. But when Montalban shall be cried aloud,
Then will the gazing eyes of envious crowds
Look on thee: thou'lt be great, and rich, and
pow'ful! . . .

But to thy greatness will be join'd the hate
Of discontented men, that will belie
Thy merit, and traduce thy name!

Fitz. Duke William's estimation and mine
honour,

I owe, my lord, to thee:—gratitude
Will ever make me mindful of its source.
But who shall trample on my reputation?
Or lay my sacred honour in the dust?

If such a man doth live in Normandy,
Twere better he'd laid hold of ours, less apt
To know an injury, and to revenge it.

Bar. Haply some time, doth fast 'approach,
when thou

In Normandy shalt rule: when I am dead:
England will soon demand the Duke's return,
Who shall reward thee with a potent sway,
If there be in me pow'r to gain it for thee.
But yet 'tis ominous to be Montalban:—
Thou harbour'st a snake beneath thy roof,
That only would gain strength to lay thee low!
I'd have thee narrowly inspect the chance,
That may o'erturn thy new-born greatness.
Beauchamp, the stripling, that doth eat thy bread,

And drinks out of thy cup, hath sworn himself
Montalban's heir! What think you on't?

Fitz. Montalban's heir!—I understand thee
not ;

But on my mind 'tis painted by reflection!—

Bar. To be Montalban, is to be great—
But to be baited by a milking boy,
For that thou hast, is to be less than what
Before thou wert.—Fitzosborne, 'tis for thee
I hate him, and would have thee well consider
To rid thee of thy guest.—Hark'e, my friend!
His mother, like the dame of old, hath fill'd
His brain with lies, which now have grown so big,
And wrought such passion in him, that perchance
He may, hereafter, bid thee lick the dust
From off his feet,—So much Ambition grows,
And multiplies the wants of its possessor,
Instilling enterprises in his breast,
The bane of social happiness!

Fitz. What then?

Bar. I cannot understand the mystery—
But when thou art proclaim'd, within his breast
Will rise the dread invader, Jealousy,
Which cometh from the Devil straight, and owns
None other parent;—for by him 'tis fed,
Till sin, its cloven offspring, is matur'd,
And then it eats, and fattens on its young:—
'Tis not confin'd to space, it buds alike,
And bears its blossom in the winter's blast,
And summer's drought! though as a giant strong,
It visits with the meekness of a babe,
And eats the maiden's heart, the husband's peace!
Kings fight with kings, and know not why they
fight!

Whole nations bleed, and thirst to bleed again,
So cunningly it has its being!—
Two Barons!—two Montalbans!—even so!

Fitz. It cannot be.—

Bar. It must not be.—

Fitz. He is my guest!

Bar. Therein he is thy debtor!

Fitz. His mother——

Bar. Thou must also settle with——

Fitz. Beauchamp is young——

Bar. And enterprising!

Fitz. I'll think no more on't——

Bar. " " As it may please——

Thou'lt home again and give them welcome.

He wears a sword,—'tis said he parries well——

Fitz. (*Laying his hand on his sword.*) My lord,
I'm still Fitzosborne!

Bar. We must attend the Duke; he waits our
presence.

Anon we will consider further.

Mother and son!—It may be that I err——

[*Exeunt.*]

SCENE III.—*An Avenue near the Castle.*

The Vassals assembled.

(*LADY MONTALBAN, BEAUCHAMP, and ROSAMOND*
in the back ground.)

1st Vas. Here let us wait the Duke's approach.

Let fear

Be banish'd from our hearts, and ev'ry deed
Of blood be cloth'd in truth, that each may plead
Before our prince with dreadful lamentations;
And justice light on him, that caus'd them!

2nd Vas. If there be yet left in us virtue,
No tongue will be found wanting to intreat.

Our kinsmen's blood doth still besmear the ground,
Unwilling to revive the flow of life !

3rd Vas. Three sons I once to Heav'n could look
with joy,

And call mine own :—virtuous, wise, and brave ;
They reverenc'd me much, and latterly they gave
Me food ; but they are now no more !

Perhaps some wolf, long since, hath made him fat
Upon the precious food ; or it may chance

That in unballow'd holes, unseemly cast,

They rot ! Their blood hangs heavily on thee,

O Longueville !—For the establishment

Of thine ill-gotten pow'r, they drew their swords,

And seal'd their deaths with virtuous, noble, blood.

Thou brought'st mine age to want and beggary !

1st Vas. Oft has this arm the furious jav'lin
hurld,

And pin'd unto the earth its living mark !

Oft have these sicken'd eyes beheld the short,

But awful struggle betwixt life and death,

And I the cause of it : Oft have they seen

Two dying men, with agonising grasp,

To tear the weapon from each other's wounds,

And the first dying man hath recommended

Wife and children to the care of him,

That in a moment followed !—But see,

The Duke approaches :—he is thoughtful—

Enter the DUKE and a KNIGHT.

Duke. (*Observes the vassals*) All joy !—This
exercise of mercy gives

A pleasant satisfaction to mine heart.—

Lady M. (*comes forward.*) My prince, thy
mercy is an wholesome wind,

That opportunely flies across a land,

Infected by disease, expelling all

The incidental sicknesses of heat,
 Unhealthy cloudiness, pernicious blight :
 'Tis gladly felt ; and, like the shepherd's pipe,
 With pleasing shrillness, whistles in our ears.

Duke. (with surprise.) Thou art familiar to
 mine eyes ! • Thou bring'st

Some welcome recollection to my mind !
 But still I must know more ere I can hold
 Free converse with thee. • Who art thou ?

Lady M. If it is given us to know ourselves,
 And to reap wisdom from each accident
 Of our existence, surely this my state
 Makes me the happiest of the happy.
 'Tis true I'm poor,—but that same poverty
 Doth give me peace, that cannot pass away.
 Honors sit easy on me, having none,
 Though once they hung upon this mortal tree,
 Like clusters of pois'nous berries, beautiful—
 Unto the sight.—My lord, few friends I boast ;
 But that same paucity of social knowledge,
 Made me to live obscurely happy,
 Whilst discord clung unto the higher class.—
 Ambition's longings lie not down with me,
 Nor do I thirst to shed my neighbours blood.

Knight. Lady ! Hast thou aught wherewith
 our lord,
 The Duke, should be acquainted. —Whence
 com'st thou ? —

Lady M. (to the Duke) I come from happiness,
 only to make
 Him, whom I love, as happy as myself.—
 If Normandy doth hold one spot of ground
 Where pure delights make their abode, I've left it.
 The scene is changed, for a season only,
 To rioting ; but in the midst of noise,
 I can make peace expel the rank invader.

I sometimes mourn'd, but 'twas a pleasant mourning.

Knight. She speaketh strangely! — What would'st thou have?

Lady M. I would have that, which in the crown of kings

Shines as the brightest jewel,—brighter indeed Than is the crown itself, its pomp and pow'r.

I would have that, which Heav'n hereafter will Bestow on each of us! — I would have that, Which, with the rich man, is the poor man's right.

Knight. Thy demand?

Lady M. I would have justice, noble Prince.

(*To the Knight*) 'Tis not to thee I plead.—Justice, my lord,

That splend'rid light, which comes from Heav'n alone,

And makes us speak the truth when we give honors,

For 'tis absurd t'applaud and call him noble, Who is a beggar in nobility's Most necessary ingredient.—

Duke. Lady Montalban!

Lady M. She that was once so call'd, But now, as free from honors as from pain; Lady Montalban, the great Baron's wife, His loyal, faithful, wife, within whose arms, Expiring, he forgave the wretch that slew him. Thou look'st upon me with a piteous eye, As on an out-cast, wand'ring far from home, Beset with want, and plunder'd of her right; But, between us there is a thicken'd mist, That paints me in false colors; one, that dims Thy vision with a deceitful glare, That robs me of the greatest boast I have,

The being happy in a world of woes!
 My lord, reflection in thy countenance
 Hath ta'en the place of pity! The same;—
 No worthless counterfeit of precious coin,—
 No babbler of lies,—no madness here,—
 No grinding creditor, that would exact.
 The uttermost of him, that is a bankrupt!
 But one, that sues but for a moiety of
 Her claim; not for herself, but for that youth!—

(*shewing her son.*)

Duke. Amazement!—Proceed.—

Lady M. Can'st thou not read his face?—Alas!
 my prince!

He is my son,—and more, my dutious son!
 Montalban's son!—they both were his,—are
 mine!—

Courage will sometimes shed a tear!—

Duke. Let my astonish'd ears hearken to
 nought,

But what immediately belongs unto
 Thine history! Why have ye liv'd so long
 In solitude? Lady, thou knew'st me well!

Lady M. Aye! well, my lord! but man, in
 nature, oft

Will change himself, as doth the moon its face!

'Tis true—I knew thee valiant, noble, just;—

I knew thee what a Prince should ever be!

And this, thine act of mercy, doth convince,

That the same virtues live within thee still!

My lord! yet did I know thee for the friend

Of mankind's enemy!—a murderer's friend!

Unknowingly cherished in thy breast,—

As doth the earth her *Ætna* and *Vesuvius*!

Duke. A murderer! (*Viewing Beauchamp's
 sword.*) That sword was sleeping then!

Lady M. Nor dar'd the stripling to unsheath

Or, on the deed, his mother's curse had follow'd!

He shall not stain his hands with blood, my lord!

E'en guilty blood hangs heavily on us!

(*Takes the sword.*) Know'st thou this sword?—

'Tis richly studded!

Duke. I know it well! It is the sword I gave, Some twenty years ago, to Baron Longueville!

Lady M. And nobly it has serv'd its office! It should be hung up only for a show!—

Duke. Proceed! (*Pointing at the blood on the blade.*) Look here!—here!

Lady M. My lord, I know it well! I've often look'd,

And silently indulg'd the dreadful sight!

That sword, my murder'd lord, himself, tore from His bleeding breast, and, dying, gave it me!

Duke. Longueville!—

Lady M. He can tell thee more!

Duke. (*Looking on the sword.*) Lady, it cannot be!

He serv'd an honorable stewardship!—

Lady M. . . . Oh, my good lord!

Say not that cannot be, which is.—Man is!

But, as the rainbow bears its various hues,

Mankind, in nature, differ more and more!

To have the form of man,—to walk upright,—

To eat, to drink, to sleep,—anon to wake,

And hunt the beast, that shall afford us food!—

Thus to be man is to be nothing!

But, to the animal to join a soul,—

A thinking soul, which contemplates the Pow'r Incomprehensible, that fix'd the sun

In the high firmament! there to command

His noble system, boundless, unexplor'd;

That gave the moon its menstrual revolution

Proud earth the day to work, the night to rest:
 That views each planet rolling thro' the air,
 With careful swiftness, in th' accustom'd track :
 That views the starry heav'n,—each star a sun!
 Ten thousand suns!—ten times ten thousand
 worlds!

Oh! thus to think, and by that thought to act,—
 Is to be more than man!

Duke.

Thy strain is soft!

But it may rob me of my better sense!

Lady M. My lord, I urge no more! Not as a
 suppliant,—

Not as a beggar,—comes Montalban!

Thou art my Prince, as such I will obey thee!

Thou art a man, as such I'll pity thee!

Nay, tho' a woman, I do know myself!

Who knows himself, knows all mankind; for
 nought

Deceives him more——

Enter a Friar, hastily.

And who art thou, good man,
 That would impede me? When my confessor
 Is dead, I'll send for thee!—Yet——

Friar. My Prince, the holy faith I do profess
 Commands me to make wise the ignorant!

Lady M. Oh, holy Friar! if wisdom could be
 bought

And sold, we should not lack instructors!

Duke. We most religiously will hearken to
 thee!

Friar. When the last breath draws nigh, and
 man looks back

Upon a mispent life, sick of the sight,
 He turns his eyes unto the other world;
 But there he sees each sin personified!—

His dreadful judge, and his unerring justice!
 Just now there fled an overburthen'd soul,
 So laden with iniquity, and yet,
 Methinks so girded with repentance,
 'That, in his death, we must esteem him happy!
 Some sixteen years ago, Dennis, a knight,
 Was known to all of us!

Lady M. " I knew him well!

Friar. Thou hast forgotten me!—

Lady M. " Give pardon!

Duke. He was a traitor!—

Friar. " But he is dead!

This moment, as he opened his heart,
 Confessing an enormity of sin,
 His body wracked by a pois'nous draft!—
 My Prince, thou cam'st to make thy people
 'Happy!—

Unfurling murder, double murder came,
 And crown'd the poison with a dagger!
 Full in my face,—Dennis died shortly after!
 Absorbed in death,—the murderer fled away,
 Heeding not me (*shewing his crucifix*) or mine!
 But here he comes,

He will explain all!

Enter BARON, besmeared with blood, hastily.

Bar. " My lord, the feast
 Awaits your presence; all things are prepar'd!
 (*Aside, seeing Lady Montalban.*) Oh, I have
 play'd my game, and I am cast!

Duke. But thou, good courtly Baron, must
 exchange
 Thy golden suit! Get thee to the castle!
 I'll not be wanting:—That way it lies!

Bar. I would declare——

Duke. " That way it lies!

Bar. My lord! [*Exit.*

Duke. (To a Vassal.) See that he 'scape not by
the way! [*Exit Vassal.*]

Henceforth all things are possible! Madam!—

Lady M. My lord, I ne'er had troubled you,
but war

Stepp'd in, and, in a moment, made my son

A warrior! to check the dear pursuit

Was vain; his noble father's valor liv'd

Within him; and the flow'rs first opening prov'd

Its worth: he sav'd the Baron's son from death!

But 'twas not fitting he should serve my lord's

Dread foe! nor, dar'd I trust his youth unto

The wiles of artful men! Hither I came

To fight his battles, in the sur'est way.

But the poor solitary cot I left,

Gave purer joys, and more supreme delights,

Than here I 'ere can hope to find!

Duke. Let us retire! Lady, thou art o'er-
come!

Montalban's long lost name shall be rever'd

In Beauchamp: and for thy comfort,

Nought shall be wanting, that my land can give.

Beau. Thanks to my Prince! There is no
room for speech!

Duke. Oh, Longueville! what a wretch art
thou!

[*Exeunt Duke, Knight, Beauchamp,
Friar, Lady Mont. and Rosamond.*]

1st Vas. The Duke hath heard enough: our
grievances

Are easy burthens, when compar'd with these!

Establish'd peace will presently dwell with us!

Let us away, and greet the coming time!

[*Exeunt Vassals.*]

ACT V.

SCENE I.—*A Forest at Midnight.*FITZOSBORNE *is discovered.*

Fitz. Chaste mistress of the night, why dost
 thou hide

Thy face? yet still be dim, that in my breast,
 No stalking shadow of myself may plant
 A fearful cowardice! It was the wind!

Yet, if thou wilt gaze on me, to behold
 The consummation of the deed! be dark
 For ever after, or exclude this speck

Of corrupt earth from thy beneficence!

Thou kind ambrosial dew, lay not thy load

Of incense on this space, nor let thy care

Assist in its fertility: ye rains

Descend not here; but be ye provident

Of that, which merits ye: and thou, O sun!

Render the good and bad an equal share

Of that, thou largely dost possess!

Be once a judge, and turn aside thy ray:

Or, be an awful one, and pour thy rays

Tenfold; and give to each a tenfold fire,

That this base ground may burst with fervent
 heat,

And form a gulph myself alone can fathom!
Be blind mine eyes; nobly ye've serv'd your
office!

To greatness you have led me by a road,
Too easy and direct to give me peace!
I have acquir'd fame and riches!
Fools think me happy; and the ignorant
Begin their court, and cringe unto me:
But the sage serpent hath already paid
His service: I've agreed to worship him!
Cease to have thought, mine understanding,
That in my conscience, nought may plead against
Thy fix'd resolution. • Longueville!
Thou plantedst in my bosom this! Would thou
Hadst something found, that would have done
to me

A greater service!—I had been well to night.—
Yet must it be, in each particular,
As I agreed with him; or I am lost
To honor, fame, and wealth! What now is mine,
Will be another's!—What before I had,
Will be the curse of my prosperity!
Beauchamp, thou diest to-night!—I give myself
Unto my fate! If there's another world,
Where we shall all be judg'd!—I cannot think on't!
I hear a step! (*Retires.*) My guest, returns this
way!

Enter YOUNG LONGUEVILLE.

Young L. Hide me, ye woods, from mortal
vision!

Where shall I find that lowly cot, that gave
These many years domestic happiness;
Content, and peace, to Beauchamp! yes, even
Montalban!—there let me spin out the course
Of my existence, that no prying eye

May recognize the son of Longueville.
 My father, — dreadful recollection! Heav'n,
 Why didst thou make me son of such a man!
 But, yet, 'tis so. Would that the vengeful arm
 Had, to the uttermost, performed the deed,
 And Beauchamp had not rescued me, then I
 Had died in ignorance; Oh, happy death!

Fitz. (aside.) 'Tis not my prey, it is Young
 Longueville;

He seemeth sorrowful, so is Fitzosborne;
 The castle-bell tolls midnight; now 'tis said
 This part o'the world is upside down,
 Surely my faculties agree with it.

Enter BEAUCHAMP.

(Sees YOUNG LONGUEVILLE, but knows him not.)

Beau. Speak, who art thou that wand'rest here
 alone

When it is fitting all should be at rest?
 Dost thou not answer me? I come to seek
 For him, that's dearest to my soul: tell me,
 Hast thou beheld a youth, the virtuous son
 Of an ignoble sire; surely, my friend,
 Thou know'st Young Longueville! if virtue's lov'd
 By thee, he must be lov'd! — I pray thee speak:
 This way he came and I must find him out.

Fitz. (aside.) 'Tis my sword's darling. — I'll
 catch his words.

Beau. Why dost thou pause in telling truth:
 the night

Doth lower, and the escape of ev'ry grain
 Of sand, doth make a greater space between us.
Young L. I know him well. Just now he
 passed this way,

And, in an agony, e'en thus he press'd
 Mine hand, and charg'd me, earnestly, to tell thee,

He'd liv'd a day too long: that, in his life's
 Brief catalogue of joy and pain, this day's
 Endurance had weighed down, so mightily,
 The sorrowing scale, that, if each happiness
 That can attach itself unto the life
 Of man, should combat it, 'twould prove, at best,
 A sparrow fighting with an eagle.
 Dearer than life he vow'd his friend to be,
 Beauchamp he call'd that friend.—Oh, sir? such
 love

Ne'er join'd itself to such heart-rending grief.
 Thy mother's peace, thy sister's happiness,
 He urg'd should be his constant pray'r;—lastly,
 Forgiveness for his father's crime he beg'd,
 That largely rend'ring, thou might'st largely have.

Beau. Whose hand is this? 'tis most familiar—
 Whose voice hath pain'd my list'ning ears so long?
 Who is the bearer of these woes to me,
 That in so apt a strain he can relate another's

(discovers *Young Longueville*)
 Story?—speak, who art thou? Is it so!

My friend, my dearest, virtuous, injur'd, friend!
 Why art thou thus cast down? return with me.

Young L. Oh, never, never!

Beau. Recall that dismal word:
 These hands shall wipe away the cause of grief,
 And, in oblivion, drown each painful thought.

Young L. Oh, never, never!—I cannot enter
 tain

The curse of crowds: my father's effigies
 I cannot see hung up as monuments
 Of detestation!—I cannot hear
 Each prattling child descant on him, as though
 He were the hero of some bloody tale,
 Implanted in it by a knowing nurse.

Beau. I will not go without thee.—Come, only
 come

To pass the night. — Let us escape the storm ;
The blacken'd clouds do kiss the wat'ry moon.

Young L. Shew me the path unto thine happy
cot,

And thou wilt give me all mine heart desires.

Beau. Not now. — In some more pleasant hour
we both

Will visit it. — Come this way.

Young L. Why wilt thou urge me. I have
made a vow

Ne'er to know peace again. — What have I said ?

Beau. I will conduct thee safe : thou shalt not
want

A mother : — thou shalt share with me : — this way.

(Exit Beauchamp and Young Longueville.)

Fitz. *(comes forward.)* Gone. I've heard their
flippant talk too long :

It gave so much delight, my savage thirst

Was well nigh satisfied. — Damn'd is the deed

I am about to do. Reflection's eye

Must be shut up. This conscience is asleep ; —

Out, out ; *(draws his sword)* thine edge entices. —

I hear them still.

Pray, Beauchamp, pray, — thy life is on the ebb.

(Exit Fitzosborne. — Clashing of swords

is heard without ; he returns with a
bloody helmet.)

Oh, shake not thus thou mean defender !

(Gazing on the helmet.) Still trembling, as tho' it
were alive ;

The body's masterpiece is not in thee !

How vigorously his veins did spout ! — thou'rt not

Montalban now, — no, no ; but what art thou !

It is a sick'ning thought, — still like the aspen,

Are these death's struggles ! — his blood clings
to me,

As, I remember, he was wont to do,

When, for his mother, he did supplicate
 Protection!—one half is done.—Methought
 I heard a noise,—(*reviews the helmet*) liv'st thou
 still;
 (*Pauses.*) Fitzosborne, it is thou that tremblest.
 [*Retires.*]

Enter LADY MONTALBAN, with a torch.

Lady M. I heard a voice, it was a savage one,
 There was no pain in it:—'tis gone;—the beasts
 Have fled the wood, they smelt the murder out.
 Oh, I will make this hell-sprung land to blaze!
 The earth shall shed its fury here! again,
 I hear a footstep:—'tis lost, — again,
 It cannot be;—nature herself is rous'd.
 The roosting birds have been disturb'd to night!
 Oh, Beauchamp! Beauchamp! my son! my son!
 If thou dost live, oh, answer in the winds?
 That some kind current, gently passing by,
 May whisper me the tidings!—sure 'twas a groan,
 But not of death:—my lord's last groan sounds yet
 Within my ears, — but this has passed away;
 'Twas awful and resign'd,—but this is damn'd.
 Speak, whosoe'er thou art, that stalkest here;
 Art thou the restless spirit of a trunk,
 Permitted, for a time, to come about,
 And seek a dreary solace for thy pains;
 Art thou some wretch, to whom the night denies
 Its peace:—I charge thee speak,—I had almost
 Forgotten I was woman (*by the light of the
 torch sees blood on the ground*) 'tis done!
 Oh, Heav'n! if 'twas thy will, I'm satisfied!
 This way the track is. Longueville!
 Thou wert too keen to let him live. [*Exit.*
Fitz. (*coming forward.*) She should have died,
 but I have done enough!

*Enter ROSAMOND, distracted, she seizes
FITZOSBORNE.*

Ros. Thus will I clutch thee, friend or foe:
tell me!
Where fled my mother? speak, some blaze shot
thro'
The wood!—thou shalt not part thyself from me:
Oh, wretch! wretch! thou art besmeared with
blood;
Death rests upon thee:—Fitzosborne!
This was the ring my mother gave to thee. [*Exit.*
Fitz. Tear out my heart and hang it on a tree,
That birds may peck at it and be distemper'd.
[*Exit.*

SCENE II.—*An Apartment in the Castle.*

BARON (solus).

Bar. Ambition's journey I have finished:
I have press'd forward on an unknown road,
Like the sage traveller, that seeks, he knows
Not what, nor where to find—I've reach'd a town,
Fair-looking to the eye without, within,
Devoid of shelter from the rain and wind,
The heat and cold; an heap of ruins, where
The ugly bones of wretches like myself,
That here have perish'd in the same pursuit,
Lie mocking on the ground:—nay, more,
I am a falling star, that wond'ring fools
Do gaze at, and, suddenly, 'tis gone!

Enter FITZOSBORNE, with the helmet in his hand.

Ha, Fitzosborne! 'tis too late a service.

Fitz. Say'st thou thus to me,—I kill'd my soul
In killing its possessor!

Bar. The duke doth know me now, and I have
nought

Wherein it could befriend me;—

Yet let me look at it: (*astonished.*)

Fitz. Who wore this helmet sleeps in death:
I've done a deed that makes me covet it!

Bar. Then have thy will, (*stabs him,*) 'tis my
son's helmet;

Thou hast kill'd him.—If in the other world
Thou shouldst behold him, say that Longueville
Reveng'd his death:—Now Duke of Normandy
Be thou prepar'd.—(*Exit, brandishing his sword.*)

Fitz. 'Tis not thy sword that kills me,
But 'tis that Providence that guards the just,
Which to its hell already strikes my soul,
For ever to endure its dread deserts.
I die, and am remember'd but for these,
My recompensed crimes!—My speech doth fail!—

Enter CLIFFORD.

Clifford, remember—that Fitzosborne kill'd
Young Longueville;—the Baron did seduce
Him to destroy Montalban's son;—but Heav'n
Look'd on, and would not have it so!—
The Baron gave me this, — Clifford forget
me.—(*dies.*)

Clif. This was a man, whom virtue might have
call'd

Her own: but now a trait'rous murderér:—
Where Longueville doth sting 'tis certain death,
But his black venom hath o'erspent itself.

[*Exit.*]

SCENE III. — *An Apartment in the Castle.*

LADY LONGUEVILLE and an ATTENDANT
discovered.

Lady L. I have not slept to night.

Att. The storm was furious.

Lady L. (Music.) What means that noise?

Att. The Duke doth hold a court.

Lady L. He's early risen: — know'st thou the business? —

Att. 'Tis to administer justice. —

Lady L. My brain is feverish! — How does my lord? —

Does he attend the court? — Where is my son? —
Thou can'st not answer that: — Sing me the song
Some time ago you sang so prettily.

Att. Madam, I cannot sing, my heart is heavy;
My pipe hath lost its little melody.

Lady L. Thou look'st at me as tho' thou
thought'st —

Att. I do indeed, but I am silent: .

Lady L. What think'st thou?

Att. All is not right, but charity compels
Mine aid in thine heart's sickness. —

(Clashing of arms without.)

Lady L. Where is that clash of arms?

Bar. (Without.) Villain, enough!

Vas. (Without.) That for my wife! that for
my children!

That for my myself! and this for Normandy!

Enter BARON, wounded.

Bar. Love, I come to die before thee!

Lady L. What wretch did this?

Bar. He was no wretch!—

Do I look pale?—the Duke is wiser than
He was some hours ago.—(*starts.*) Oh! what
art thou?

That starest at me thus: my son! away!

I am thy father! Longueville reveng'd:

Thy death.

Lady L. Whose death, my lord?

Bar. Our son's:—he's dead!—away!—Hie to
thy tomb!—

It better suits thy state:—E'en so!—'tis gone!—

Enter a KNIGHT.

Knight. The Duke demands your sword and
presence:

Bar. Here,—take my sword,—I thank him
for its use!—

But for my presence,—I've another calling!—

Knight. Nay, sir!—we must not loiter.—Thou
shalt with me.

Bar. Thou liest! see'st thou these holes?—I
live e'en now

By miracle; oh!—We shall soon meet!—

Wife!—my ruin!—oh!—take me where thou
wilt!—

(*Falls into the arms of the Knight
and is borne off.*)

Lady L. I will not die!—I'll live!—have dou-
ble life!—

I'll range the world!—but nothing's new in it:—

Longueville!—plead to the Duke!—Longue-
ville!—

Remember 'tis thy wife that bids thee.—

[*Exeunt Lady and Attendant.*]

SCENE IV.—*A splendid Court in the Castle.*

DUKE OF NORMANDY, CLIFFORD, VASSALS, &c.

Enter KNIGHT.

Knight. My Prince, the Baron Longueville is
 " dead!—

Some injur'd arm gave him a mortal stab.

Duke. Would he had been as virtuous as
 brave!—

Where is Fitzosborne?

Clif. My lord, he died
 Some hours ago, within these arms.—

Duke. Thou say'st it not!—

Clif. It is most true indeed!
 And, in his dying breath, he did confess
 Young Longueville's murder!—the Baron urg'd
 Him to the deed;—and, having err'd in it,
 He gave him death for his reward.

Duke. Heav'n's what a flow of blood this land
 hath seen!—

Enter LADY LONGUEVILLE.

Lady L. (Wildly.) Do as the man that's hun-
 gry;—Longueville!—

Remember, whilst the serpent lives his sting
 Lives with him;—we'll have no laws!—Longue-
 ville,

Plead to the Duke!—(to the vassals,) why stand
 ye thus upright?

There! there! they fly!—husband, and son!—

Oh! stay!—

I'll after them!—

[*Exit.*]

Duke. (To a vassal.) Attend her instantly:—

[*Exit vassal.*]

There is a savage fury in her countenance.

Here comes young Beauchamp with his mother!

*Enter BEAUCHAMP, LADY MONTALBAN, and
ROSAMOND.*

Clifford, support and comfort her; and take
Her weeping daughter to your care.—

(To Lady M.) But why so sorrowful?—your
enemy—

Lady M. I know it,—he is dead;—would he
had liv'd!—

I cannot glory in his fall;—alas!—

Fitzosborne was my friend! I was his guest!

But suddenly, when I had gained more

Than I sought after, he became my foe!

I could have paid him with a double measure!

My son hath lost his friend, young Longueville:.

They lov'd each other well.—

Duke. No longer Beauchamp!—
Montalban now: *(to the vassals.)* henceforth know
your Baron!

When stern reflection shall have done her office,

We will command a tournament, where grief

Must not invade,—where every face shall bear

Its wonted feature.—But to restore

This valiant youth unto his father's right,

We'll lose no time; he hath already prov'd

How well he can perform his service.

(Beauchamp does homage to the Duke.)

FINIS.

EDUCATION:

A COMEDY,

IN FIVE ACTS.

AS PERFORMED AT THE

THEATRE ROYAL, COVENT-GARDEN.

BY THOMAS MORTON, Esq.

AUTHOR OF "SPED THE FLOUGH," &c. &c.

LONDON:

PRINTED FOR LONGMAN, HURST, REES, ORME, AND
BROWN, PATERNOSTER-ROW.

1813.

(Price Two Shillings and Sixpence.)

Printed by T. Davison, Lombard-street,
Whitefriars, London,

PROLOGUE,

BY MR. TAYLOR. SPOKEN BY MR. ABBOT.

"TIS Education forms the common mind,
"Just as the twig is bent the tree's inclin'd."
Is this a maxim ratify'd by truth,
And is there then such pliancy in youth?
Alas! experience shews us, ev'ry day,
That still new passions and new habits sway;
And, as our lives from stage to stage advance,
Most are impell'd by int'rest and by chance.
Spite of the discipline of wisdom's school,
The fool of nature will remain her fool;
And oft, we find, as varies fashion's code,
That vice or virtue proves the reigning mode;
To her each sex submissive bend in turn,
And what she teaches, all are proud to learn,
Her wildest whims are caught with eager haste,
As if sustain'd by Genius, Science, Taste!
The modern Nymph, as Fashion rules the heart,
Attempts to rob poor *Crispins* of their art,
And while to gain her smiles the Lover sues,
Now bawls *brayuras*, or now shapes *let shoes*.
The youth, whate'er his parents may have plann'd,
Who sours for fame, by driving four in hand;
Though Fortune may decree a noble doom,
Nature design'd a coachman, and a groom.
Let then the Drama, to its purpose true,
Reflect the times, but aim to mend them too;
Prevailing follies try to laugh away,
But deeply probe the vices of the day.
And hence our Bard, who, for your kindness past,
Bears a fond record, that thro' life will last,
To-night directs the Muse's honest rage
'Gainst vernal defamation's daring page,
From which the highest no protection gain,
Since infamy and law alike are vain.
Aid then our Bard, to lead ingenuous youth
From Fashion's snares to Reason, and to Truth..

DRAMATIS PERSONÆ.

Count Villars	- - - -	Mr. YOUNG.
Sir Guy Stanch	- - -	Mr. MATTHEWS.
Mr. Templeton	- - -	Mr. FAWCETT.
Vincent Templeton	- -	Mr. C. KEMBLE.
Suckling	- - - -	Mr. LISTON.
Damper	- - - -	Mr. BARRYMORE.
Aspic	- - - -	Mr. JONES.
Broadcast	- - - -	Mr. EMERY.
George, his son	- - -	Master CHAPMAN.

Steward, Attorney, Servants, Husbandmen, &c.

Rosine	- - - -	Miss BOLTON.
Mrs. Templeton	- - -	Mrs. C. KEMBLE.
Ellen	- - - -	Miss BOOTH.
Dame Broadcast	- - -	Mrs. DARTENFORD.

EDUCATION.

A C.T. I.

SCENE I.—*A Hall in Templeton's House.*

A Knocking at the Door.—Servant crosses the Stage—returns, followed by DAMPER.

DAMPER.

IS Mr. Templeton within?

Serv. The favour of your name, Sir? (*DAMPER gives a card*) Mr. Damper—he is not, Sir?

Damp. Pugh, pugh! I'm his intimate friend.

Serv. Oh no, Sir—there you'll pardon me—I keep a most accurate list of my master and mistress's friends (*shewing a Book*).

Damp. Indeed! a convenient sort of reference; for to know friends, as times go, is no very easy matter. Hark you, fellow; tell your master that Mr. Damper from Lombard-street—a stranger to his present fashionable nomenclature, but one who formerly was in his books—insists on seeing him instantly.

Serv. Sir, I shall give in your ticket; but making speeches is not in my department.

Damp. Indeed! then I presume your are what is called a figure footman, and hired by measure— (*Servant bows*). Six feet of more accomplished assurance I never looked up to.

Serv. You are pleased to flatter.

Damp. But if the distance across your shoulders was not included in the estimate—he is a mea-

sure (*shewing a cane*) that will in one moment ascertain it, unless you exactly obey my orders. [*Exit SERVANT.*] Bad memories indeed—when friends cannot be remembered without book.—When in London and in active life he was above these modern fopperies; but a young gay wife sadly alters your middle aged gentleman.

Enter Mr. TEMPLETON and SERVANT.

Templeton! heartily glad to see you.

Temp. What, 'my old partner Damper!—welcome to Leicestershire—thrice welcome, my worthiest friend!

Damp. (*To Serv.*) Do you hear? his worthiest friend!—Book me—[*Exit Serv.*]. You look tolerably hearty and cheerful—but—

Temp. But!—Oh, old Damper still, I see—When will you leave your vile butts, and doubts, and perhaps's.

Damp. When my friend's conduct no longer requires them—perhaps yours don't:—but—you are married again I hear?

Temp. To a woman I adore.

Damp. Poor fellow—when the diseases of children attack maturity, they always rage with redoubled violence.

Temp. Marriage, believe me, is the end of life.

Damp. I believe it would be the end of mine. So you adore the charms of this Venus, eh?

Temp. I do indeed.

Damp. Perhaps she adores you for the same cause, eh, my Adonis of half a century!—ha! ha!

Temp. No, no—yet gratitude for my affection—my attention to her happiness—the affluence I placed her in—

Damp. True; when fifty and twenty match, 'tis a sort of give and take race, and you are expected to carry weight for age. So my old friend happy as I could wish him?

Temp. Yes, exceedingly—very—reasonably happy—tolerably happy—certainly—but—

Damp. (*aside*). So I have brought him to his butts.

Temp. Perfection, you know, my dear Dampier, is—

Damp. Fortunately not necessary to human happiness.

Temp. Certainly not; but—

Damp. (*aside*) Zounds, again—Come, out with the worst.

Temp. Then the worst is, that Mrs. Templeton has had a perverted modern education:—for in our stylish manufactories of female attainments, the Muses and Graces so struggle for precedency, that the unassuming domestic virtues are completely jostled into a corner;—and from this *magazin a la mode* issues an abundant supply of female poets, artists, attitudinarians, philosophizing daughters, waltzing wives, and infidel mothers.

Damp. The effects on Mrs. Templeton—

Temp. Are an active taste for expense, with a decided averseness from all household duties, produced by the indolent and deceptive spirit of procrastination; which, pregnant with the productions of to-morrow, leaves to-day barren and comfortless; and while we abound in economical theories, we are ruined by unthrifty practice:—so that in Mrs. Templeton's boudoir you may see the Lady's best Companion entombed in the dust it aims to sweep away; while a satirical spider has drawn his web over the Complete Housewife.—And, thus to-morrow, to-morrow, and to-morrow—

Damp. Come, come.—Considering the bad culture of the soil, the produce might have been worse.

Temp. Very true, indeed;—but—

Damp. Zounds, again!—(*aside*.)

Temp. You must know I was captivated with

her eyes—brilliant, fascinating, penetrating—
and—and—

Damp. I'll finish the sentence—their brilliancy blinded you to her imperfections, while their keenness enabled her to discover yours.

Temp. Rather so—yes.—And, between ourselves, a priest of the sun is not required to offer more frequent incense to his idol, than I am to their effulgence.—She's here.

Damp. A fine woman, faith.—I'm afraid of these dazzling eyes—a *coup de soleil* might be fatal.—I had better go.

Temp. Go, my friend!

Damp. I can't administer to vanity, not I;—besides, I'm in *deshabille*.—Oh! here's a glass to adjust my wig and cravat by (*goes to a glass*). Personal vanity I abominate, friend Templeton, and few are to be found without it—(*adjusting his figure in the glass*).

Temp. Very few, indeed.

(*Mrs. Templeton without*)—Pray, don't tease me now; tell them all to be sure and come tomorrow.—(*Enters*). My dear Mr. Templeton, you'll be delighted with the guest your son Vincent has introduced.

Temp. You mean Mr. Aspic.

Mrs. Temp. Such commanding talents, such superior taste—he has found fault with every thing he has seen; and has pronounced the house and grounds so detestable, that I can't endure the sight of them:—how obliging it is of him!

Temp. Extremely.

Mrs. T. We've laid such delightful plans:—the house is to come down, the farm to be parked, and the meadows to be put under water.—Now, my love, you'll have no trouble—

Temp. Except the slight trouble of paying for it.

Mrs. T. Oh, but Mr. Aspic says people of

EDUCATION.

taste never think about that : so I shall give orders to begin.

Temp. When, my dear?

Mrs. T. Oh, to-morrow.

Temp. Then all's safe (*aside*).

Mrs. T. Who is that odd man?

Temp. My late partner, who, contented with competence, retired—(*Damper advances*). My love, I am happy to afford you the gratification of making welcome my friend Mr. Damper.

Mrs. T. The possessor of that title must be interesting in my eyes.

Damp. Eyes already! (*aside*.)

Mrs. T. To see a friend of Mr. Templeton's is highly gratifying.

Temp. (*to Damper*) Do you mark the emphasis?

Mrs. T. But in glancing over our list I have not observed your name: but my tall man is shockingly inaccurate. Do you know, last winter, Sir, he told me I was quite intimate with Lady Paramount—but in making her a visit, the old Goth denied the least knowledge of me. I wish some of the Society of Arts' people would offer a premium for the best system of visiting one's friends.—Could not you book-keeping gentlemen deserve well of your country by some plan?—

Damp. Why really I don't see why the merchandise of fashionable arrangements should be without its ledger, though it might be difficult to post some things to the credit of the account.

Mrs. T. Ha, ha!

Damp. Then as your time is so precious, what think you, madam, of a subscription for a west-end of the town clearing house, where these worsted lace representatives of our nobility might assemble for the exchange of accepted calls, dishonoured invitations, and the quick transfer of the paper currency of polite accommodation

Mrs. T. Delightful!—the tunnels and auction marts in real utility would be nothing to it. I'll positively write to town about it to-morrow.—Oh, there's Mr. Aspic!

Damp. Who?

Mrs. T. Mr. Aspic!—If you don't know him, I'll make you acquainted.

Damp. I will not be acquainted, madam, because I do know him.

Mrs. T. Are you aware that he writes in the *Tenthook Review*, is a caricaturist, and the author of the severest satirical novels?—'Tis highly dangerous not to be well with him.

Damp. A pleasant recommendation, truly.

Mrs. T. Well, I must away—I've a thousand things to arrange for to-morrow. I hope I may look forward, Sir, to a long visit?

Damp. I shall not have the temerity to promise that—you may not like me a little, and I may like you too much.

Mrs. T. Oh, I shall wink at that.

Damp. Closing those eyes is certainly the best way to secure my safety.

Mrs. T. Pshaw! Templeton can tell you how I hate all that.

Damp. He has.

Mrs. T. I'm too clear-sighted to be deceived by such flattery, I assure you.—Adieu! (*Exit.*)

Damp. Rid your house of that fellow—that Aspic. He's another instance of the blessed effects of modern education, which has armed every witling with the weapons of personal satire:—for now, cities are visited, tours are made, not to paint the world's beauties, but to caricature its pitiable deformities; not to cull the sweets of nature, but to collect the poison of defamation—not to bestow instruction, but to purvey to the insatiable appetite of slander, and teach the rising generation to "prey on garbage."—But where's your son Vincent?

Temp. I see little of him—he's all abstraction.

Damp. Do him justice, he's all one thing, or all t'other—he's no retailer of the passions. You gave him the rein too soon.

Temp. Too soon! Did not he carry off the prize at school?

Damp. And did not he carry off the bedmaker's daughter with it?

Temp. Did not his calculations make him a wrangler at Cambridge?

Damp. And a tame pigeon at the club at St. James's,—When he came to town he was all business:—he involved the house in speculations, then he was all extravagance—things went wrong, then he was all rage—that subsided, then he was all indolence.

Temp. That accounts for his conduct—he avoids me.

Damp. Perhaps not; for here he comes.

Temp. Indeed! I'll speak to him.

Damp. Perhaps I had better do so; your tenderness may overcome your fortitude.

Temp. True, and your fortitude is in no such danger.

Damp. Humph! Perhaps 'tis tenderness for you both makes me ask it.

Temp. True, true, my friend; grant me your pardon!

Damp. On condition you take it away with you instantly.

[Exit TEMPLETON.]

Enter VINCENT TEMPLETON.

Vinc. Hey day, Damper!—what rare occurrence brought you here?

Damp. A very rare one, I assure you—friendship.

Vinc. 'Tis always under the sanction of that name that grumblers annoy society.—Now for a lecture as long as a tailor's bill.

Damp. That is unnecessary, when the total may be expressed in one word—economy!

Vinc. I'm its slave; have not I sold my barouche and stud?

Damp. And lost the produce at *Maccow*.

Vinc. That was unlucky; but have not I discharged my lodgings?

Damp. What at Farmer Broadcast's?

Vinc. Confusion! what do you mean, Sir?

Damp. Generally what I say—Poor Rosine!

Vinc. Ah, her name! If you betray me!

Dump. Young man, if you despise the character of a betrayer as much as I do, virtue and secrecy will be equally sacred.

Vinc. Rosine's virtue is sacred, and he merits chastisement that suspects it.

Dump. And what does he merit who placed her in a situation to justify suspicion?

Vinc. 'Sdeath, how could you learn?

Damp. Was it likely that a beautiful and accomplished woman from a fashionable seminary should disappear without inquiry—without wonder—without sorrow?

Vinc. Pshaw! I'm weary of your croaking.

Dump. Yet the raven must breathe a hoarser note—your father—

Vinc. (*Alarmed*) What of him?

Damp. Is on the brink of ruin.

Vinc. Ruin!

Damp. I fear inevitable ruin.

Vinc. I dread to ask the cause.

Damp. His son's indiscretion.

Vinc. Oh, save me from that thought!—May dishonour blast me, if the life he gave me is so precious as my dear father's happiness!—Let me fly to him.

Damp. Hold! he is as yet unacquainted with his situation—I am by his partners intrusted with the secret. Is this estate large?

Vinc. Very.

Damp. It must go.

Vinc. It will destroy him.

Damp. Has he other resources?

Vinc. His expenditure is very ample. I hope he has—senseless prodigal! unfeeling son!

Damp. Vincent, come hither.—I see in your countenance the expression of sincere sorrow, and your eye is illumined with the benign lustre of filial love.—Here's my hand—the blood that animates it is not propelled from an unfeeling heart.—Your father shall not fall, while old Damper can buy a crutch to sustain him.—Come, come—though I sometimes depress the buoyancy of unfeeling prosperity, I hope I am always willing to lift up the desponding.—All may yet be well.

Vinc. Here comes my mother-in-law with Aspic:—I would avoid them.

Damp. Avoid your friend!

Vinc. Not my friend; but his knowledge of the world.

Damp. The man that shuts his heart against every valuable feeling, finds his excuse in this boasted knowledge of the world.—It is often the purchase of prudence at the expense of virtue, and implies a devotion of the mind to the detection of low cunning, intrigue, and self interest;—the pure and elevated dignity of genius looks above these contemptible arts.—Dismiss him from your counsels.

Vinc. I've sometimes courted the Muses, and his favour—

Damp. That writer neither consults his interest nor his honour who seeks any favour but that of the public. In their candour will, his weakness find the securest shelter—in the sunshine of their favour only can the wreath blossom that is to crown his honourable exertions. [Exeunt.

SCENE II.—A Library of Mr. Templeton's—An iron chest occupies a conspicuous situation.

Enter Mrs. TEMPLETON and ASPIC.

Mrs. T. You are a vile, shocking, man! Indeed,

Mr. Aspic, you are too severe. How many instances of disinterested friendship do we find in books?

Asp. True, and no where else, ha! ha!—Come, come, don't mar an enchanting smile by the cold intrusion of prudery, which acts on the mind like our grandmothers' drapery on the body; burying in whalebone stiffness, and cut-velvet dignity, the form, ease, and vigour, of wit and repartee.

Mrs. T. Pshaw! what signifies how I look!

Asp. Heigh ho!

Mrs. T. You sigh.

Asp. Woe to the world!—what devastation will those eyes cause in the spring!

Mrs. T. Now I hate you—Yet, I own, I long for the spring—dear, animating spring! how delightful to enjoy thy charms in Bond-street, to hear the dear little dingy sparrows chirping on the lamp-irons, and see Flora's fairest flowers nodding in 'carts for the decoration of the ball-rooms.—Dear Templeton, come here!—

Enter Mr. TEMPLETON and DAMPER.

The prospect from these windows will be a *coup d'œil* of science, spirit, taste—

Asp. And, at present, 'tis as flat as the fens, and antiquated as a clipt yew-tree. There are certain objects, Sir, which should be kept at a proper distance. I'll—(*approaching familiarly.*)

Mr. T. (*gently repelling him and bowing*) I have made that a particular study.

Asp. My views, Mr. Templeton, are—

Damp. (*apart to him.*)—Sufficiently obvious.

Asp. Damn that quiz!—I owe him money. Mr. Dampier, I know the world.

Damp. (*aside*) And I'll take care the world shall know you.

Asp. Your debt shall be discharged—you have my word, which is as good as my bond.

Damp. Exactly.

Mrs. T. Treason! (*Pointing to Templeton*) I accuse this man of speaking treason against the monarchy of fashion, of which I am a most loyal subject.

Damp. I hope, madam, that in the true spirit of your country your allegiance only holds while fashion assumes a limited prerogative; for 'tis the essence of our moral constitution that the mind should not bend to its sway;—for instance, I would not scoff at futurity though an atheistical poet were the fashion, nor affect the puritan to comply with the popularity of a religious novel; but for the discussion of fashion's legitimate decrees I know no lady more entitled to a seat on the woolsack than Mrs. Templeton (*bowing*).

Asp. Pretty well put 'faith. Ma'am, I give you joy of your appointment. — Won't your red book furnish a place for me?

Damp. Why, in the olden time, there was a court favourite of a motley garb.

Asp. The court fool!—thank you, Sir.

Mrs. Temp. Ha! ha!—I give you joy of yours.

Asp. But the truth is, that the business of that department increased so rapidly, that, like other great offices, they were obliged to put it into commission, and now every court dangler is entitled to a seat at the board.

Mrs. T. Ha! ha!

Asp. He don't laugh—he don't understand a good thing.

Damp. Try me. (*a cracking of whips.*)

(*Sir Guy Stanch without*). Get out of my way, you rascal!—I've been insulted.

Mr. T. Sir Guy Stanch quarrelling with my seryant.

Enter Sir GUY STANCH.

Sir Guy. Jerry, keep the hounds back—for the confounded perfumes in these rooms might spoil the dogs noses. I've been insulted, I say.

Mr. T. The man that has unjustly offended you, Sir Guy, shall instantly turn out from my——

Sir G. (*slapping him on the shoulder.*) Then turn out directly, for you are the man.

Mr. T. I!—

Sir G. Yes. A tenant of yours, by your order it seems, tried to prevent my galloping over his corn and turnips.

Damp. What, stop a hawnet full cry!—unheard-of outrage!—

Sir G. He stop me!—no—no—I rode over the rascal.

Mr. T. If satisfaction is to be made, I think, Sir Guy, my poor tenant has some small claim to it from you.

Sir G. Sir, my family never gave satisfaction to any body—they rode where they liked, and did what, mischief they liked; and while your profit and loss forefathers were weighing an ounce of nutmegs, the Sir Guy Stanch's roasted their oxen whole, and brewed twenty bushel to the hog'shead. (*Sees Mrs. Templeton.*) Soho! Sarvant, Ma'am—should not have given tongue so loud, had I known you were present—'Tis not reckoned manly to take away the talk from the ladies.

Mrs. T. Yet, Sir Guy, I'll waive my privilege, if you will have the goodness to explain how this happened.

Sir G. With the greatest pleasure, Ma'am!—You see we were all at fault—

Mrs. T. Oh, if you own the fault—

Sir G. Zounds, no, Ma'am—no!—You're a fine creature, but 'tis your misfortune to know but little of fox-hunting.

Mrs. T. In pity to that misfortune, instruct me.

Sir G. The pack had overrun the scent—(*with earnestness*)

Mrs. T. Aye, now I see how it is.

Sir G. Huntsman, says I, try back—make a cast.

Asp. To be sure.

Sir G. How beautifully they spread!—(with enthusiasm.)

Asp. Yes—(encouraging him.)

Sir G. Mind that old hound—how he feathers—how he flings for the furze brake—it holds the fox—they view him—there's a chorus—where are your pains and megrims now, my boys?

Asp. Aye, where indeed!

Sir G. How they carry the scent—how they strain—crack goes the hedge! Damn the turnips—nothing but the cover can save him—he gains it—rush they all go in—not a skirter among them—how terribly they press—they are on him—they have him—who whoop—huntsman, my old boy!—(In his enthusiasm he forgets every thing but the chase, and slaps Mrs. Templeton on the shoulder, who faintly screams) Eh! what, where—what a blunder!—To the very ground, madam, I humbly ask pardon; I was—

Asp. In a wood.

Sir G. Yes, ma'am, in a wood.

Mrs. T. Excuse my foolish exclamation, Sir Guy, but really I never was in at the death before.

Temp. To attempt to control such enthusiasm would only imply greater insanity.—Sir Guy, your amusements shall receive no further hindrance from me.

Sir G. Give me your hand; you're a good-natured fellow, and I dare say you have quite forgot what I said about the nutmegs, so we need not mention it, you know.—I declare, madam, I thought I was among a parcel of dogs worrying a fox—instead of which I am among—(pointing to the books).

Asp. A parcel of authors worrying one another.

Sir G. You seem, sir, to understand that sort of hackle.

Damp. A literary whipper in, sir.

Mrs. T. I ought to apologize for seeing company in Mr. Templeton's book-room—but the other apartments are in a sad disorder.—We find people so very dilatory—don't we, my dear? (*Templeton and Dampier exchange looks*).

Sir G. The room's an excellent room, for it not only contains garnish for the head—but solid pudding—(*striking the iron chest with his whip*). I'll warrant you this strong box contains something better than the nutmegs I was so unmannerly as to mention, eh, Templeton!

Mrs. T. Nutmegs, indeed!—(*aside*) Now for a little tiny white fib, to give the brute an idea of our consequence.—Certainly, Sir Guy, a piece of furniture containing fifty thousand pounds is no contemptible ornament to any room. (*Templeton starts*).

Damp.

Asp.

Sir G.

} (*To Templeton.*) Fifty thousand pounds!

Temp. (*Embarrassed, with a forced smile.*) I will not contradict a lady.

Asp. (*aside.*) Devilish hard if I have not a dip into that spice-box.

Damp. This has relieved my heart from an oppression, almost unsupportable. (*With great alacrity*) Templeton, your hand.—Aspic, I'll try to tolerate you.—Madam, the magic of your tongue has outwitted the enchantment of your eye.—Sir Guy, I think it very likely I may break my neck fox-hunting with you.

Sir G. Sir, I shall be happy to shew you sport.

Damp. For the present, adieu!—I'll soon return.

Mrs. T. But when?

Damp. (*bowing.*) Oh, to-morrow.—(*Exit.*)

(*Templeton and wife talk together, Templeton irritated.*)

Sir G. Egad, a bright thought, and then I shall have the whole country to hunt over.—Templeton, you have a son, I have a daughter: what say you to a match?

Temp. (*with embarrassment.*) Your proposal, Sir Grey, does honour to my son and me.

Sir G. That's hearty!

Temp. What have I done! assented to a falsehood! What could occasion Dampier's extraordinary conduct? Perhaps he has not yet left the house.—I'll own—what a lie!—where shall I hide my shame!

[*Exit.*]

Sir G. So, ma'am, I sent my girl Nell to Mrs. Polish's tip-top school, to learn how to behave when company comes, and do the chattering part properly, and make the punch, and so forth.

Enter SLR VANT.

Serv. Your servant has brought this letter, sir.

Sir G. (*breaking the seal*) From Mrs. Polish, I declare. "Expect your daughter's arrival."—I must be off full gallop. "Receive her with pride, Sir Guy, for you will find her *aufait*—"

Asp. We say *aufa*.

Sir G. Yes; I know "*aufa* of astronomy, botany, chemistry, history, geography, geology, philology, and chronology"—'tis odd among so many ologies not to find theology.—I have drawn on you for—(*whistles*) 530 l.

Mrs. T. Very moderate, indeed.

Sir G. Moderate! Why zounds, ma'am, my dogs don't stand me in the money.

Mrs. T. Oh, fie, Sir Guy! you really must modernize, and benefit by the rapid advances daily made in sentiment, spirit, refinement—

Sir G. Roguery.

Mrs. T. Ha! ha!—Yes, there modern refinement is peculiarly conspicuous. Formerly you were plundered in dismal forests illumined by the lightning's glare—you now suffer in perfumed drawing-rooms, beneath the mild irradiation of Chinese lamps.—Instead of daggers and poison, you are now presented with ice-creams and wafer biscuits; the crimson field of slaughter is converted into a square yard of superfine green cloth; and the appalling cry of your life, your treasure, is mellifluously modernized into—Can you one—or pain, be civil.—Ha! ha! [Exit.

Asp. Bravo! ha! ha!

Sir G. Sir, I shall be happy to see you at Tantivy Hall, for I am afraid Nell and I will want an interpreter—and as you seem au—au (*peeps slyly at the letter*) au fait of these matters.

Asp. (*aside*) An heiress fresh from Mrs. Polish's hands—no difficult conquest. Sir Guy, I'll wait on you with pleasure.

Sir G. That's hearty! 'Tis Liberty Hall—We dine at three; and if you an't there to a moment you'll lose your dinner—and you have only to drink one bumper to fox-hunting, and another to the girl of your heart, and then you do as you like. I'll leave for you my famous horse Somerset.—Jerry, let the hounds loose.

Asp. Is the road intricate?

Sir G. Oh! Somerset won't trouble you with the road—he'll across the country as straight as a rifle. (*Horns sound without*) There's heavenly music!—Voix! [Exit.

Asp. There he goes:—if his feed is as excellent as his cattle, and his daughter as high-bred, no bad speculation.

Enter VINCENT TEMPLETON.

Vinc. What a situation's mine!—Cursed impetuosity!—How can I, in my father's present cir-

cumstances, name to him an honourable connection with Rosine! How can I name to her a dishonourable one! Dare I name it to myself? Beloved Rosine, how have I involved thee!—never shall uncontroll'd passion again sway me.—Feeling may be allowed to execute, but first let reason legislate.

Asp. (*advancing*) “Whilome in Albin’s isle
there dwelt a youth,

“Who ne in virtue’s ways did take delight;

“But spent his days in riot——”

Vinc. Damn poetry!—I hate it. The Muses and I have parted.

Asp. I did not know you had ever met—ha! ha!

Vinc. Spare me, Aspic—your mirth’s oppressive.—Where’s Damper?

Asp. Looking for you, to be his partner in a *pas de deux*.

Vinc. Sir, my father’s misfortunes——

Asp. What the devil have you got into your head now? your father is certainly oppressed with the singular misfortune of having 50,000 *l.* in that strong box.

Vinc. What! explain.

Asp. Your mother-in-law averred it, and your father unequivocally assented to it.

Vinc. Huzza! Dear Aspic, the fire of Prometheus never gave such animation to his clay, as thy words have kindled here.

Asp. Why, the Galvanic spark tickled old Damper in the same way; for he capered, like a cart-horse in a curvette, or my Lord Clubby in a cotillion, ha! ha!

Vinc. Fifty thousand pounds!—I’m all essence, spirit—the world’s at my feet!

Asp. Then kick it along, my boy!

Vinc. Enchanting Rosine!—lovely as the morning beam,

Yet pure as the fountain that reflects its ray.

Asp. Damn poetry !—I hate it, ha ! ha !

Vinc. Gentle as the Zephyr, yet blithe as the leaf that dances in its eddy.

Asp. Mercy, mercy ! Come, come—over a venison chop and a batch of champaign we'll plan operations. That's the time for the projection of vigorous measures.

Vinc. True ; for what the devil would become of the country if it were not for the cabinet dinners ! There our importations are discussed over the turtle, and the home supplies accompany the English sir-loin—the loaves and fishes naturally introduce the debates—and parliamentary speeches are mixed with the whipped syllabub—colonial produce is handed in with the coffee—in a glass of Constantia they double the Cape of Good Hope—and settle the India trade over a cup of souchong. [*Exeunt.*

END OF THE FIRST ACT.

ACT II.

SCENE I.—*An Apartment in Tantivy-Hall.*

Enter Sir GUY STANCH and SERVANT.

Sir G. Mr. Aspic not yet arrived?

Ser. No, Sir; but Somerset has been home some time.

Sir G. Poor Mr. Aspic, ha! ha! can't take a five-barr'd gate;—there's a precious education for you!—yet I dare say in London he's reckoned a clever fellow.

Enter ASPIC.

Welcome, Sir, to Tantivy-hall! Why, Somerset and you did not agree?

Asp. No, I ventured to debate the right of way, which at the hedge produced a division.

Sir G. And left you in a minority.

Asp. Left me in a ditch; but we'll let that subject stand over *sine die*, without my asking leave to sit again.—Where's your accomplished daughter?

Sir G. Within there—(*enter Servant*) Where's Nell?

Ser. My young lady's gone botanizing, I think she said. (*Exit.*)

Sir G. Botanizing! ah, Mr. Aspic, 'tis a melancholy thing to have children wiser than ourselves.—I'm a miserable father.—If I happen to say 'tis a star-light night, I must run the gauntlet of the zodiac; and then "O fie, Sir Guy! that's an anachronism—I'm shocked, papa, at that solecism."

So what between the isms and the ologies, curse me if I can open my mouth in comfort—(*Ellen sings without, do, re, mi, fa, sol, la, si,*)—There again, she used to enliven my heart with singing “A southerly wind and a cloudy sky,”—but now she goes about sol-faing like a parish clerk.

Enter ELLEN.

Come hither, Nell! I present you to Mr. Aspic. Who is—who is—what the devil are you?

Asp. Who is anxious to be ranked among the admirers of the accomplished Miss Stanch—(*Ellen bows ceremoniously*).

Sir G. What! have you been gathering a posy?

Ellen. Selecting some pleasing specimens of the bellis hortensis, nigella cerulio, narcissus latifolius.

Sir G. What a lying old rascal French the gardener is, for he always told me they were batchelors buttons, the devil in a bush, and daffy down dillys!

Asp. Observe, Sir Guy, with what grace she unshawls herself—(*Ellen in a picturesque way unrobes herself of her shawl, and carelessly drops it on a chair.*) Divine!—I shall expire!

Sir G. Shall you though—no, don't;—(*to Ellen*) and you think that vastly clever—Now, miss, I'll shew you how your grandmother did it—(*folds it neatly; pins it, and lays it smooth on a chair*)—there, and if the old fashion is not worth an hundred of the new one, may blank days be my portion to the end of the season!

Ellen. Indeed, Sir Guy, you should abstain from hunting in the morning, the plants then give out carbon.

Sir G. What do I care what they give out!—Damn carbon!—talk to me of carbon!

(*Suckling, without*). Uncle, where are you?

Ellen. Ah!—the voice of dear cousin Suckling—

Sir G. And what's cousin Suckling to you?

Ellen. Every thing;—my early friend—my playmate.

Sir G. But I mean to couple you with another playmate—Vincent Templeton!

Ellen. Sol, fa, de, ra!—

Sir G. Now that's to drive me mad.—Go to your room.

Ellen. I prefer the grove.

Sir G. Why you forget—the plants give out carbon.

Asp. Charming Ellen! (*apart to her*)—will obedience to a father's harsh rule—

Ellen. Oh, Sir, don't be alarmed!—ha! ha!—The ladies in the lowest class are quite perfect in the exceptions to the rule of paternal obedience—ha! ha!—Receive, Sir Guy, the homage of my duty.

Sir G. Don't Sir Guy me, you hussy! or I'll knock you down.—An't I your own affectionate father?

Ellen. (*aside*)—If I can't outwit you, my dear papa, I've been to Mrs. Polish for very little purpose—Sol, fa!—

(*Exit.*)

(*Suckling, without.*) See, if I don't tell uncle.

Sir G. There's another plague—I sent this ward and nephew to Parson Porker, to get a solid, substantial education; but he seems to have studied nothing but Mrs. Glass's cookery.

Enter Suckling.

Sack. Oh, here's uncle!—Why, uncle, that's not Ellen!

Asp. An ingenious discovery!—Sir, your remark does credit to your penetration, my name being Aspic.

Sack. And if you go to that, my name's

Boniface Suckling, esquire.—That's a Lunnoner! Why, uncle, compared with he you're as old-fashioned as a tansey pudding!—Sir, I never was in Lunnon.

Asp. Then, Sir, you have yet to behold a large city, composed of buildings of various descriptions, which are occupied by their respective inhabitants.

Suck. No, sure!—wonderful!

Asp. I think you would shine there—you have a very fashionable stare, and a fine upright person.

Suck. Yes, straight as a spit, an't I!—Ah, but then, don't be shocked at my telling the truth—consider, I have never been in London; you must know I don't think I am flourishing and saucy enough.—You see I am a plain man.

Asp. Very—ha! ha!

Suck. That's saucy enough, however.

Sir G. (to Asp.) I wish you could make something of him—see, how he blushes now! your company would cure him of that; and then, as to assurance, there again you could help him—and, in return, if the use of my stud—

Asp. Oh, Sir!

Sir G. Or if any of my drafts would be acceptable—

Asp. (with alacrity) My dear Sir, drafts did you say?

Sir G. Yes, if you'll accept any of my draft hounds—

Asp. (aside) Damn your hounds!—Come hither, Bonny! Shut your mouth and open your ears, my plump one!—Instead of the Olympics of the ancient Greeks, you must study the mystic games of the moderns.—To the groves of Academus you must prefer the *pavè* of Bond-street. Your jurisprudence may be limited to the annuity act and the game laws, and your zoology to the racer and

bull-dog; these, with an energetic devotion of mind and body to waltzing, and a close attention to business—that is, to Newmarket and the clubs—constitute the essence and vitality of a first-rate modern education.

Suck. Dang it! how he knocks the words about!

Sir G. And do you hear, bum your cookery books.

Asp. Oh, no! culinary criticism is in high request. He shall deliver the axioms of Apicius, with the accuracy of Euclid—only his *gout* must be made *piquant* and *recherchés*.

Sir G. Must it! well, I'll order it to be made so.

Suck. I see what they are at; they want to make me a genius: but it wont do—not such a fool as that, neither:—So I'll go to Ellen!—You must know I'm in love with her.

Asp. Indeed! and does she return your passion?

Suck. Why, that follows as naturally as brandy follows pig—he! he! So, I'll go and talk to her.

Sir G. You talk to her! Lord help you!—She's all up among the stars! A little almanack learning is very well; such as “thirty days has September;” or to know when the day begins, or when Saint Swithin falls.

Suck. Or Pancake Tuesday.

Sir G. But she can't tell how much flannel will make a poor child a petticoat, or enumerate the ingredients of a hunting pudding.

Suck. I can.

Sir G. I dare say; but I've provided her a husband; so think no more of her.—Come along, Mr. Aspic.

Asp. Good bye, Bonny!

[*Exeunt Sir Gly and Aspic.*]

Suck. Now there's behaviour from an uncle to his own natural nephew: he supposes I've no

spirit; 'but the moment I come to years of discretion I'll play the very devil—see if I don't.

Ellen. (peeping) Bonny! Cousin Bonny!

Suck. Eh! where! what! Why, Ellen! Lud a mercy, you skim about like a swallow in spring, and look as pretty as the primrose it hovers over, and I'm sure you be as welcome.

Ellen. Thank you, Bonny.

Suck. Ah! when you left me, Parson Porker said I looked as pale as 'a parsnip; so I took a little mulled wine—*(sighs)*.

Ellen. You're just the same, Bonny.

Suck. Am I? I'm so glad at that. I was fearful there might be some alteration; and then who knows but the fervency of your affection—

Ellen. My affection!—I'm sure I never told you—

Suck. Told me! no; but don't you remember—I love my love with a B, because he's bonny—he! he! Bless me, how elegant and tasty you are!

Ellen. You don't dislike female accomplishments?

Suck. Oh, no; they're like 'a second course—not necessary, but agreeable: but do you know that uncle and that Lunnoner are laying their heads together to part us.

Ellen. Then perhaps, Bonny, if we were to lay our heads together we might prevent them.

(He draws her towards him, and kisses her.)

Suck. And rather than part, I'll run away with you any morning you like after breakfast.

Ellen. Will you? hush: I hear them; this way.

Suck. And we'll lay our heads together again.

[Exeunt.]

SCENE II.—A Parlor at Farmer BROADCAST'S.

Enter Dame BROADCAST and BROADCAST.

Broad. (*as he enters*) Come, come, wife! a mug of beer, directly! (*Exit Dame.*) Eight hours ploughing, in a stiff clay, makes a man cruel limp, and faintish—(*wipes his forehead*) *enter Dame with beer* Aye, there's heart and proof in this (*drinks*). Where's George? At school, I suppose, idling his time in studying.

Dame. Ralph Broadcast, don't you be always worrying and taunting about the child's learning; it costs you nothing. Mr. Templeton, Heaven bless him! pays for it; and I'm sure George grows quite politesome and mannerly.

Broad. What need he go to school for that, you old fool! I never was learnt manners.

Dame. That's true, Ralph! but improvement—

Broad. Oh, yes, there are rare improvements now a days! Why, I remember the time when I could get drunk to my heart's content for ninepence; and now, though I spend half a crown I come home as sober as a sucking calf. I hope you don't call that improvement? Has Goad the drover been here?

Dame. No, Ralph!

Broad. I must find his account.

Enter GEORGE.

George. Good evening, father! (*opens door, gets on a chair, and places books on a shelf.*) I'm very hungry, mother!

Broad. (*looking among papers in a pocket-book, drops one.*) Aye, instead of stuffing thy head I would make thee yarn some to fill thy belly. I say, George, what's the use of thy learning—doist know, boy?

George. Why, father, I was thinking about that myself, so I asked my mother.

EDUCATION.

Broad. Well.

George. Says he, I will endeavour to improve your young mind with a probable occasion to its usefulness.

Broad. Now for it.

George. When your dear father becomes old and past labour, your learning will be useful to him in managing his accounts in this world, and by giving good books to him, enable him to settle his account with advantage in the world to come.

Dame. There, husband! (*Broadcast looks grave*).

George. And, my dear child, says he (*taking both their hands*), if it should please Heaven to afflict our beloved parents with lameness or blindness, think what a happiness it will be to comfort and assist them, and change many a long winter's night of sorrow into contentment and cheerfulness!— (*Broadcast and wife become strongly affected, they sob, and conceal their faces.*) Oh dear! why I have made you cry; I thought it would make you happy and merry.

Broad. So it do, my dear!—so it do—he! he! (*mixing laugh with cry, he then snatches up George and kisses him.*) I say, missus, he's mortal like me, beant he?—he! he!

George. And, 'father, when I heard I could be such a blessing to you I went to my book so eager, and so viscious—

Broad. Thee shalt go to school all thy days, if thee liest. I declare he conversations better than I can.

George. Now I'll go to Miss Rosine.

Dame. She's not within, my lamb!

George. I'm sorry for that, but it won't do for me to idly stay time so. (*Picks up the paper his father has dropped, and seats himself on the ground, writing figures with chalk*).

Broad. (*signifying to the children*) George Tem-
pleton been here to-day.

EDUCATION.

Dame. Ralph, however, none of your wretched notions. Miss Rogers is as valuable a member. When the young squire brought her here she thought he was taking her to his father's house; and then he got so cross his clay broke down.

Broad. Well, I don't do it right—only things that a little matter nothing.

Dame. I've seen you wink, and nod your stupid head before Miss Rogers—and then, dear lady, she has sighed as if her poor heart would burst.

Broad. I be deadly sorry for that—if I should offer to do so again, you can give me a hint, you know.—Here comes Miss, and, seemingly, in a mortal taking.

Enter Rosier.

Ros. Oh, Dame! I've been greatly alarmed.

Dame. You look so, dear lady!

Ros. An old gentleman fell senseless from his horse—his servant galloped off for assistance, leaving me to watch him. When he recovered, he gazed at me with frantic eagerness, and this ornament became entangled in his hands; at the sight of it he, with curses, threw me from him.—I fled; he then wildly commanded my return; but, nature being exhausted, he again fainted. Medical aid arrived, and they bore him away. See, there they go!

Broad. Why; certain sure 'tis my landlord, old Mr. Cleveland!—Poor man, he's past his best. You must know, Miss, that, long ago, he quarrelled with his daughter, and ever since he has been startleish, and athwart, and across, and Danish-like. He has left all his fortune to old Mr. Templeton—I say all the better for some folk. (*Winks.* *Dame* *gives him a hint*) Zounds, what a grip!—I did not tell thee to give me a hint with a pair of pliers; did I?—Oh, there's a good fellow!—pow, where's the paper for George?—You have got it, and scribbled it I suppose.

EDUCATION.

George. I have done it, I am sure, father. (Gives.)
Broad. This seventy-five pounds will just pay a quarter's rent.

George. (looking at the paper.) I was thinking, father, that if the drover only pays you seventy-five pounds, he will cheat you out of twenty-eight pounds fourteen shillings.

Broad. Eh! What did you say, my dear?

George. I think the cattle sold comes to a hundred and three pounds fourteen shillings.

Ros. Let me see—'tis so indeed: good boy.

Dame. Now, is his learning nonsense?

Broad. He! he! Ah!—he's a cute one, he has it fra' his feyther. You must understand, Miss, that our famely is a particular sort. There's a crown for you, you cunning little jackanapes!—he! he!—Come, dame!—Mortal like me, to be sure!

George. What a grand gilt Robinson Crusoe this will buy!—(*Dame Broadcast takes George's hand.*)

Broad. Mortal like me, to be sure.

[*Exeunt Broadcast, Dame Broadcast, and George.*]

(*Vincent Templeton, without.*) Ha! ha! beer after champagne! No, no, Broadcast, that would indeed be sounding the base string of humility.

(*enters somewhat intaricated*). Enchanting Rosine! see at your feet your impassioned lover! (kneels) Will you not raise him to your arms?

Ros. How is this? There is a freedom in his look and manner new and alarming. Vincent, this extravagant emotion does some violence to my subdued spirits.—Pray rise. (with great formality.)

Vinc. By my hopes—that supplicating eye, that plaintive voice, that interesting dejection, are my soul with love so ardent—here could I gaze for ever!

Ros. Fie! fie!—This is the most extraordinary enthusiasm—let your imagination be the emanation of a feeling and not a feeling itself. Love is

best employment is the change of confidence—
—the mutual sacrifice of self-interest—the sacred
office of friendship—the sweet memory of kindness—
—these are the features of that love whose power
is silent, and whose nurse is virtue.

Vinc. And truths divine came mended from
her tongue.—Sweet moralist!

Ros. Does he mock me!—Oh, Vincent! where is
the father whose arms you said were open to re-
ceive me? Without his public sanction, poor and
unprotected as I am, I never will be yours!—Fare I
remain no longer.

Vinc. (*Aside*) As I wished.—My card to you.
Ros. has devised a secure retreat—a chaste way
to bear you to it.

Ros. Ah!

Vinc. There away from fathers—the world,
and its cold rule.—

Ros. His senses are disordered!—Let me fly!—
But whither?—To the next precipice, rather than
remain.

Vinc. I've been drinking bumpers of champagne
to our safe arrival at this Elysium.

Ros. (*aside*) Stratagem alone can free me.

Vinc. What says my love?

Ros. (*averting her face*) Vincent, you shall wit-
ness the extent of your power over me—I'll in-
stantly prepare for my departure. (*Rushes into her
room*).

Vinc. This love's triumphant. But hold!—Rosine
to consent so soon—I'm not quite sure I like that
—I'm afraid I'm growing sober—It's a cursed
silly thing to be half a rascal.—Oh for a little
more virtue, or a little more champagne!—But in
this play of Aspic's I don't like it.—But, zounds!
I need not hurt her property if she don't—so con-
fess to her—no, she don't
Love Aspic's I don't hear her
Rosine!—Will she come through the key-hole)

—The window open. (*Bursts open the door.*)—
Gone—fled from her seducer!—a detested word.
I'll pursue, but not to destroy. If ever I allow
uncontroll'd passion—What, again protesting!
Drunkard, idiot, scoundrel!—(*Rushes out.*)

SCENE III.—*A Park—House in the distance—
Trees in the centre—Near them a seat.*

Enter ROSINE, running.

Ros. I have escaped; but whither have my fears
compelled me? I must rest awhile. I'm vry faint
—a female approaches—(*conceals herself behind a
tree.*)

(*Ellen crosses the stage, with a small basket under
her arm—on seeing Rosine, starts.*)

Ellen. A lady, and alone! She seems greatly
agitated. How may I venture to address her? I
fear, Madam, you are ill? Shall I procure as-
sistance? (*Rosine advancing, recognizes Ellen,
shrieks, and conceals her face.*) Heavens, Rosine
St. Clermont, my beloved instructor! (*with re-
serve*) Madam, *Je suis bien aise de vous voir.*
Oh! I cannot school it. Dear, dear Rosine! look
on me:—'tis Ellen, 'tis she you have called your dar-
ling Ellen that entreats.

Ros. I am not guilty—by my soul I am not.
I dare bathe your hand with my tears. I dare
press you, Ellen, to my broken heart; were it a
guilty one, I durst not do so. Tell me where am I?

Ellen. In my father's domain; there's his man-
sion, whose hospitable doors will open wide as
these arms to receive you.

Ros. No! that must not be.

Ellen. Ah! but it must, though: here I am ver-
derer, you are a trespasser, and by virtue of my
office I am bound to impound you. I don't care
for your frowns, Ma'am. School's up, school's up!

By my wishes, here comes my father! Dear Rosine, rest there a moment. (*Leads her to a seat.*)

Enter SIR GUY STANCH

Oh! Sir, I've been so surprised and delighted, and you'll be delighted. I've met dear Rosine!

Sir G. Who?

Ellen. The teacher.

Sir G. The teacher! Good bye! (*Going.*)

Ellen. (*holding him*) Nay.

Sir G. The learning of the pupil has quite satisfied me.

Ellen. But, dear papa, she is in distress; she claims your hospitality.

Sir G. That claim was never refused by the Stanch's!—she shall be received, though. He were president of the Blue Stocking club.

Ellen. That's a dear dad! (*patting his cheek.*)

Sir G. Call me dad, and you may do any thing. What the deuce shall I say to this old starch female buzwig?—I wish I could hit on some hard words. (*Ellen advances with Rosine.*)—Old buzwig! I never beheld a more lovely and interesting creature!—Hem!—Pardon, madam, my unphilosophical incompatibility to make my congratulatory advances recommendatory and conchatory to a lady (*perusing a letter*), who is au fait of astronomy, botany, chemistry, history, geography, geology, philology, and chronology.

Ellen. Ha' ha' ha'

Ros. Receive my heartfelt acknowledgments—but allow me, Sir, to enter my humble protest against that system of education whose object is rather to obtain the meed of public applause than to insure the felicity of domestic retirement—and which teaches the arts of obtaining a husband, rather than the duties of making one happy.

Sir G. Your sentiments are admirable. I love to introduce you to the Hall.

EDUCATION

Ros. First know the person you thus honour
My mother was an Englishwoman, who was dis-
carded by her family for marrying a native of
France.

Sir G. And serve her right.

Ros. Oh, Sir, had you known my father, you
might have been pleased to think otherwise.

Sir G. To what English family did your mother
belong?

Ros. I know not, Sir - my parents carefully con-
cealed it.

Sir G. Why this is the history of old Cleveland's
daughter! Your father's name?

Ros. Saint Clement.

Sir G. No, that won't do--I've interrupted you.

Ros. I was sent to an English school, while my
father fought in the armies hostile to the existing
government. At length the usual remittances did
not arrive,—thus, though it filled my heart with
fear for the fate of my dear parents, was not
otherwise important as by the indulgent judgment
of the teachers I was thought capable of commu-
nicating the instruction I had received. There I
remained contented, till an unfortunate attach-
ment, an—an—ill placed confidence,—my words
are incoherent.

Sir G. Never mind, 'tis a proof they are sin-
cere.

Ros. But, indeed, they come from my heart.

Sir G. And when words come from one heart
they generally find their way to another.—'Fore
gad I'm so charmed, that if you wished to be
Lady Stanch, or, what is more, asked me for my
avourite hound, hang me if I could refuse you.

Ellen. Dear papa! Oh, we'll be so happy!—And
I won't tease you any more.

Sir G. Won't you? that's right.—Gone the
dogies

Ellen. Yes, sir--O! dear! (*putting her hands be-*

fore her mouth). And I'll make my harp twang, with Sir Roger de Coverly, and the Devil among the Tailors.

Sir G. Will you?

Ellen. Yes,—and what's more, I'll go hunting with you, and before the lark has chanted its matin song, I'll be under your window singing,

Hark, hark away,
Gone, gone away,
Fal lal de ral,
Follow, follow, follow.

Sir G. *(joins)* Damn the footmen! how they galloo!

Both. Fal lal de ral. *[Exeunt.*

END OF THE SECOND ACT.

ACT III.

SCENE I.—TEMPLETON'S *Library*.

Enter MR. TEMPLETON, *meeting* MRS. TEMPLETON.

Temp. Look here, madam! see what the report of my supposed wealth has produced: these are the effects of your innocent falsehood—your harmless exaggeration, subscription-bounds, races, balls, clubs, canals, railways (*throwing papers on the table.*) There's not a speculation of interest or folly, that I am not expected to patronize; and I must either incur the censure of illiberality, by a refusal, or embarrass my fortune by compliance.

Enter SERVANT, *who delivers papers, and exit.*

Bills of my son's:—so, so, he has heard the report and is gone mad again.

Mrs. T. Does not the chest contain the title-deeds, and I know not what, of old Cleveland, whose will is made in your favour?

Temp. But, madam, Mr. Cleveland lives—

Mrs. T. Pshaw! 'twill only be the wonder of an hour, you will hear nothing of it to-morrow.

Temp. To-morrow! I nauseate the word; my whole house is infected with it: indeed, Julia, if you saw with my eyes—

Mrs. T. Your eyes, Mr. Templeton!

Temp. Though I admit, they cannot rival yours in lustre, yet they can clearly discern that ruin—

EDUCATION.

Mrs. T. Ruin!—the oddest and most disagreeable word I ever heard. I beg you'll not repeat it, my love.

Temp. Your amended conduct must prevent its iteration, my life!

Mrs. T. Must, my dear!

Temp. Even so, my darling!

Mrs. T. Husband, you are rude.

Temp. Wife, I am just.

Mrs. T. Arrogant man!

Temp. Vain, thoughtless woman!

Mrs. T. Brute!

Temp. Torment! (*They walk about in anger.*)

Enter DAMPER

Damp. Here I am again. Hey-day! What are they about?—Oh, I see, a pedestrian contest. The lady has the foot hollow—Templeton, you're beat (*laying hold of him*). So stop, stop, I say, my peripatetic disputants, while I inform you (can't you be quiet?) that I like you so well, that I've purchased an estate in your neighbourhood; and to prevent disappointment, have promised to pay five thousand of the purchase-money to-day, which I must have of you. (*Templeton and wife stand motionless.*) I've brought them to a stand still at last, so open this iron portal, and let the Pactolean stream flow.—What, silent!

Mrs. T. Oh, Templeton, I see my error: Pardon me, shield me; this shall be our last quarrel, indeed it shall. (*Runs out.*)

Damp. So, the lady has started again. Come, come, why don't you let me have the money? Not a word! immoveable! Is it so? Mr. Templeton, I cannot misunderstand your meaning, and my thanks are due for having with such moderation checked my unwarrantable application, my impertinent intrusion. (*Bows, and is going.*)

Temp. (*stopping him*) Not so, not so, my friend!

Damp. How then, sir?

Temp. With shame and sorrow let me own, that what my wife averred, and I did not oppose, respecting the contents of that chest was—false.

Damp. (*starts.*) Destruction to my hopes!

Temp. I am very sorry on your account.

Damp. I think not of that; concealment is now impossible. 'Templeton, summon to your aid that fortitude which is the inniute of an honest breast, while you peruse that letter.

Temp. (*reading*) "Your son's speculations—other failures—have caused a run—Expect bankruptcy."—"Tis sudden, 'tis terrible—"Our only hope is delay"—that ray of hope—

Damp. I have unfortunately extinguished—for not daring to doubt your verity, I wrote to hasten the payments.

Temp. Oh, divine truth, none with impunity ever violate thy hallowed shrine! (*Weeps*).

Damp. Come, man, do not sink.

Temp. These are not selfish drops—To ruin those who placed their confidence in me—my son—my wife—

Damp. I'll break it to her.

Temp. Oh, could you mar those smiles?

Damp. Let her smile through her tears; I don't know any thing more becoming: but as you please—Here's your son.

Temp. His buoyant hopes for ever wreck'd.

Damp. He is young and able; let him boldly buffet with the tempest till it's fury ceases, and the gale of prosperity again fills his sails.

Temp. Could I but secure his happiness!

Damp. Send him to Sir Guy Stanch's; there reposes the gem he covets.

Temp. Indeed! I rejoice at it (*aside*). A marriage with Sir Guy's daughter would meet my wishes;—it shall be so. (*Goes to a table and writes*).

Enter VINCENT.

Vinc. No tidings of her. Heigh ho! how willingly would I give the wealth that chest contains to procure the sweet repose of a tranquil mind, the proud consciousness of innate rectitude.

Damp. How, now, melancholy?

Vinc. Oh, no. Overjoyed that your fears for my father were illusory.—

Damp. His wealth is illusory,—founded in error, in mistake,—be sure you do not name it.—Behold him, Vincent; he wants such consolation as a virtuous son can bestow.

Vinc. Virtuous son! (*aside.*)

Damp. And your reformed conduct in regard to Rosine gives me assurance—

Vinc. Does he mock me?

Damp. I say that your obtaining for her the honourable protection of Sir Guy Stanch, at whose window I just now beheld her—

Vinc. Is she there? (*with surprise and animation.*)

Damp. (*Indignantly taking his hand*) Did you not know it? Look at me, Sir.—Did she fly there for safety?—Away! away! (*flings him aside, and exit.*)

Vinc. Is she so near? Blest tidings! then may I sue for pardon, may again behold her! (*Templeton groans.*) Ah, a groan!—Selfish wretch! what are thy maudling griefs to his unmerited misery? (*Templeton rises.*) Oh, my father! if laying down my life—

Temp. You offer the sacrifice of life as an atonement for what the sacrifice of follies might have averted. But I pardon you.

Vinc. Oh, Sir, never again shall this heart be stabbed by your anger, or more deeply wounded by your forgiveness.

Temp. Vincent, you cannot know the affection a father bears his child. It impels every thought,

governs every action, forms the object of his life, nor leaves him at the awful hour of death. As that hour may not be far distant from me—

Vinc. Oh, in mercy! (*sobs*).

Temp. I meant not to distress you. Come, come, we are in the hands of an all-merciful Providence; and they who meet the worst with resignation, may be permitted to hope the best. I've just learnt where your affections are engaged. Here's a letter to Sir Guy Stanch; it will aid the fulfilment of your heart's fondest wishes, and my blessing be upon your union. No thanks—Lead me in, my son; for I feel as if I had suddenly grown very old. [*Exeunt.*]

SCENE IV.—A Farm Yard.

Enter Dame BROADCAST, followed by BROADCAST.

Dame. Lack, a day! what can have become of the child? He ought to have been home an hour ago. I hope no harm—

Broad. No, no -- don't be frightened—you may see I beant.

Dame. Thank Heaven, there he is—

Broad. Is he? (*recovering from his alarm*). Did not I say what a fool thee was to be frightened?

Dame. Ralph, see!—he's leading a strange looking man—one of your owseas foreigners like—

Broad. Foreigners! he gets no harbour here, I can tell him. [*Enter George, lending in Count Villars.*]

Geo. There, Sir, we've got home at last. Oh, father, I found this poor gentleman so faint and weary he could not walk—

Broad. And what was that to you?

Geo. Why, I'll tell you, father. My master ordered me to get by heart these words,—We become good ourselves by doing good to others. So I practised my lesson, by assisting—

Broad. A villain, may be. You don't enter my house.—I boast of being a true born Briton.

Count Vil. I thought a Briton's proudest boast was humanity to a fallen enemy.

Broad. That's a bit of a puzzler. But, zounds, he may be a spy, and come to tell—

Geo. Then don't let him tell that I have a hard-hearted father.

Count Vil. I ask a little water for charity:

Dame. Water,—that's but cold comfort, Ralph,

Broad. Mortal poor hungry stuff indeed.—I say, you may just draw him a mug of beer, if 'tis only for the novelty of the thing.

Dame. With all my heart. [Exit.]

Broad. I'm a bit of a constable, and won't cross question him.

Geo. Don't cross question him, father.

Broad. What countryman be you?

Count Vil. A native of France.

Broad. A Frenchman!

Count Vil. Yes, Sir.—Oh, my beloved country! degraded as thou art, still art thou mine, and with my latest breath will I assert thee!—Sir, I was shipwrecked on your coast, and the small remains of a princely fortune, which I had preserved from revolutionary destruction, was buried in the waters.

Geo. Poor gentleman! (*coaxingly pulls his father's arm round his neck*).

Broad. Bless thy tender heart! I thought just now I had lost thee, and then my worst enemy might have pitied me. (*To Count Villars*) And what was your errand here, eh?

Count Vil. To seek a lost child.

Geo. And won't you pity your enemy that has lost his child?

Broad. I hope,—that is, I suppose you found it,

Count Vil. No, she was gone,—fled with a—
Let me not proclaim my shame,—rather let the foul

pollution consume and dry up the vital stream she has dishonoured.—Oh! oh! (*Is near fainting.*)

Enter Dame, with Beer.

Dame. Here, dear good outlandish man, drink.

Count Vil. (eagerly drinks) 'Tis reviving, 'tis delicious!—A wretched man thanks you for your hospitable kindness.

Broad. Drabbit it, I don't know what to do, not I.

Dame. What does your heart say, Ralph?

Broad. Why it somehow takes his part,—I can't say but it does. Come, drink again.—My beer's like you, Mounseer, it improves upon acquaintance (*Count Villars drinks*). It makes him smile, don't it? (*Broadcast drinks.*)

Count Vil. 'Tis excellent indeed.—Ah, this is the liquor that make the Englishman fight.

Geo. Yes, Sir, it makes my father fight very often.

Broad. Hush (*Dame motions George to be silent*). But, I say, you'll allow that an Englishman's a match for a dozen Frenchmen?

Count Vil. A dozen, Sir, is a great many.—But I will say, that the Englishman who boasts of his superiority makes himself a Frenchman's inferior.

Broad. That's plump, however.

Dame. Come, Ralph.—Ask him in.—Don't be stingy.

Broad. Stingy.—It beant for that.—I think money's like manure, of no use when in a heap; but properly spread it draws forth nature's best blessings.—I will, if 'tis only for variety, and the fun on't like.—What say you, Mounseer, to an English supper, and a warm bed after it?

Count Vil. A bed of clean straw is a luxury I have not lately enjoyed.

Broad. Come, Dame, be alive. [*Exit Dame.*] Your fare will be coarse, but wholesome.

Count Vil. While you can eat the bread of liberty and independence, it does not much import whether it is white or brown.

Broad. Why, dang it, that's as good a bit of downright English as ever was spoken in parliament house. You must know, I was brought up to hate foreigners. What mischief they do in the nation let wiser heads than mine settle; but one of them made sad work here, for the daughter of my worthy landlord Mr. Cleveland—

Count Vil. (aside) Cleveland! Stand I a beggar on my wife's inheritance!

Broad. She married a countryman of yours, one Count Villars. It almost broke the old gentleman's heart, and made the name of Villars hated mortally;—but that's no concern of yours, and so walk in, Mounseer.

Count Vil. Hold! Suppose Count Villars should claim your hospitality?

Broad. I would spurn him from my door.

Count Vil. I am he! (*Broadcast snatches George from his hand, rushes into the house, shutting the door with violence*). Almighty Father, be merciful if despair drive me into the embraces of my last friend! Tremble, ye tyrants, whose ambition engenders twixt man and man the baleful passions of hatred and revenge, defiling the temple of the human heart, which heaven has gifted with its own attributes of love and charity to all its creatures. Now to seek the shelter of some hovel,—Mr. Cleveland, of thy wide domains all Villars will claim of thee as a grave. [Exit.

SCENE III.—Tantivy Hall.

Enter ASPIC.

Let me review the state of affairs.—Rosine being here, Vincent won't think of Sir Guy's daughter;—two material articles disposed of.—Now, if my

prospectus succeeds, my pupil Suckling shall disgust Sir Guy with his acquired jargon, and then *to triumph*.—But now for the lovely Mrs. Templeton;—and if her virtue wont suit my personal purposes, her follies will exactly suit my new novel.—Here comes my *eleve*, and conning his lesson.

Enter Suckling.

Suck. When man was created, and before the alembic of ratiocination had amalgamated opposing passions, and neutralized deleterious affections, and before—

Asp. Bravo! you are perfect.

Suck. An't I? Oh, now I've got a speech to my back, I beant afeard of the best of them. 'Tis a very sensible speech.—I say what, what is it about?

Asp. That's their business to find out.

Suck. So it is, he! he!

Asp. Now mark me,—Sir Guy refuses you his daughter, because he thinks humbly, and of course erroneously, of your talents,—but give him proof to the contrary, and Ellen's your own:—here he comes.—Now astound him with your impudence, paralyze him with your consequence, and smother him with your eloquence. [*Exit*]

Suck. (*imitating*) And smother him—'tis soon said—I don't think much good will come of making me a *beau esprit*—'tis distorting into a fricasee what nature meant should be plain boiled. Besides, I've read, that a critic, at a book is like a dog at a feast, who only feeds on what other folks throw away, and snarls all the time into the bargain. Now I love good humour and the nice bits, but 'tis all for Ellen;—and as love makes wise men fools, who knows but it may make me a wise man—and so, old Guy, I'll smother you.

Enter Sir Guy Stanch and Servant.

Sir Guy. Mr. Templeton's servant brought it, did he?

Serv. Yes, Sir.

Sir Guy. (*reading a letter*) "I am delighted to find that my son Vincent has conceived an attachment for your daughter."—So am I. "Permission to address her—wait on you."—Summon all the maids to dizen out Nell, and tell her to summon all her airs and graces.—Let her have her music at her fingers' end, her capers at her foot's end, and her ologies at her tongue's end, that she may make a burst with the whole pack of them.—(*To Suckling*) Stand out of my way!

Suck. Stand out of my way!—'Ecod, 'tis high time to smother him.

Sir G. I dare say he will be here immediately. What's o'clock?

Suck. Hem! In discussing that important subject it will be necessary to recur to first principles, When man was created, and before the alembic of ratiocination had amalgamated opposing passions, and neutralized deleterious affections, and before the social compact had received the indentation of common consent, and the impress of experience, and before——

Sir G. (*whistles*) He's cracked! I did not ask what time of the month it was, you mooncalf.

Suck. Mooncalf! Your remark, old Guy, is as insipid as boiled veal, and I deem it a paramount duty to explode your damned formal, corner cupboard notions.

Sir G. And I deem it a paramount duty, when puppies are let into the parlour and misbehave to dismiss them with a horsewhip. Come, clear the coaise, for I expect young Templeton to receive my daughter's hand!

Suck. What! Oh, thou most savage of hunters!—By the gods, such a deed, even, in the days of barbarism, when man was created, and before the alembic of ratiocination had—(*a knocking at the door.*)

Sir G. He's here!—Away, you babbling mongrel! (*Pushes out Suckling, who goes on with his speech till forced off*),—for here comes a thoroughbred one, and so capitally trained, that at the next parliamentary stakes I'll start him for the county.

Enter VINCENT TEMPLETON.

Welcome, thrice welcome, my dear Sir, to Tantivy Hall! Where are all my rascals?—throw open the best rooms;—load the sideboard with plate, and serve the venison pasty—

Vinc. What the devil's all this ceremony for!—Sir Guy, think me not ungrateful for this noble reception—but my anxiety to behold—

Sir G. You amorous young rogue! but I like you the better, it shews blood; only you need not push me out of my own house.

Vinc. I ask ten thousand pardons.—Is she in that room?

Sir G. (*patting down his hand*) No, no, I must prepare her to receive you.

Vinc. And does she consent to receive me?

Sir G. To be sure.—A father's authority—

Vinc. (*aside*) True, all my dear Rosine required was my father's sanction, which, being obtained, she will pardon. 'Sdeath and fury, Sir, a'nt you gone?

Sir G. What a fiery dog it is! I'm going. I say, was it at Mrs. Polish's she touched you?—Eh! (*hitting Vincent's breast*).

Vinc. Exactly; 'tis very rude to keep a lady waiting.

Sir G. So it is. I say, do you think she likes you?

Vinc. To be candid, she has confessed as much.

Sir G. A sly jade!

Vinc. Jade! Sir, that's a liberty—

Sir G. Oh! true, nobody justified in calling a

woman a jade but her husband. Well, well, I'll go—'Ecod, I'm so happy—tol de rol! [*Exit.*]

Vinc. In the name of absurdity, what is he capering about?—what's my union with Rosine to him?—what right has he to be pleased? (*Enter Suckling, who crosses the stage, making faces.*) Every soul in this house is crazy. Why do you make an ugly face at me?

Suck. I can't make an ugly face; but I would if I could, you Tarquin Superbus.

Vinc. Why, this booby's sulkiness is more inexplicable than Sir Guy's capers.

Suck. To part true lovers—

Vinc. Lovers! have you dared to lift your saucy eye?

Suck. Yes, and my saucy mouth too.

Vinc. Mouth! dam' me I'll make mince meat of you.

Suck. Mince meat! perhaps some people know as much about making mince meat as some people.

Vinc. I must have this explained. Sir, I am calm, and will thank you for such information—

Suck. Information! Oh! when man was created, and before the alembic of ratiocination had amalgamated opposing passions, and neutralized deleterious affections, and before the social compact had received the indentation of common consent, and—

Vinc. Buz, buz, baz—In love with you!—ha! ha!

Enter Sir Guy.

Sir G. Mr. Templeton—(*to Suckling*) now, pray, stand out of the way—your bride waits.

Vinc. Sir Guy—(*to Suckling*) now, pray stand out of the way—I attend you with joy.

Sir G. Allow me to lead you to her presence.

Vinc. Lead me where you please, Sir Guy.

(*Exit, pulling out Sir Guy.*)

Suck. Oh, dear, I'm faint! I foresee the most dreadful consequences; I should not wonder if it affected my appetite. Oh, Bonny! Bonny! where can you fly for comfort?—to philosophy.—When man was created (*cries violently*), and before the alombic of ratiocination had—No, that won't do. What infernal punishment does that wretch merit! He deserves---he deserves to be starved.

[*Exit.*]

"SCENE IV.—*Another Apartment in Tantiwy Hall.*

(*ROSINE and ELLEN discovered.*)

Ellen. Oh, dear! oh, dear! which is to be most pitted! the lady who has lost her lover, or she that has found one?

Ros. My sweet friend, let not your kind sympathy for me influence your determination, I resign my pretensions.

Ellen. Without a sigh?

Ros. (*sighing*) Yes. Can he know that I am here?

Ellen. He shall know it. So soon to forget your
s!

Ros. So soon to forget my wrongs! They come.—Ah, this agitation! Daughter of St. Clermont, where sleeps your pride? If the blood must stain your cheek, let it be the glow of just resentment; if the heart will throb, let its impulse be the consciousness of innate honour. [*Exit.*]

Ellen. How shall I contrive to make him dislike me! Vain girl! will it be difficult with him, whom Rosine's chains could not fetter? He is said to possess talents of the first order: so I'll appear to him as vulgar, gawky, and pert a miss as ever stood on boarding-school stocks (*sits herself, and draws a veil over her face*).

Enter VINCENT TEMPLETON and Sir GUY.

Vinc. There she sits!--(*eagerly.*)

Sir G. Zounds, you are enough to frighten the girl! be quiet, I say (*brings down Ellen, and places her hand in Vincent's*). Receive her, Mr. Templeton, and Heaven bless you together!

Vinc. Oh, Ro---(*Ellen withdraws her veil, Vincent is petrified.*)

Sir G. I never saw joy have such an effect before! Recover yourself, my dear son-in-law!

Vinc. S—s—so—son—

Sir G. He can't speak—that's right, rub your eyes. It would not be proper for my daughter to embrace you, but I will, my dear boy! (*hugs him.*)

Vinc. Is---is---not---(*pointing to another room.*)

Sir G. I know—I can take a hint. Yes, I'll leave you together, you happy---Oh, my dear son! (*hugs him, and exit.*)

Vinc. (*aside*) Whose damned scheme is this? Fool! to think Rosine was here!—What shall I say?—Won't you be seated Ma'am—Miss—

Ellen. If you please, Sir. (*aside*) Make him dislike me! 'Ecod, the difficulty would lie the other way.

Vinc. She speaks. No, thank you, ma'am. My father to join in deceiving!--Hold, perhaps this opulent connection was planned to save him from ruin;—it must be so. Then, cruel as the sacrifice is, I devote myself. If I cannot love, at least let me behave like a gentleman (*throws himself into a chair, his back towards Ellen*). She is said to be highly accomplished, and--

Ellen. Hubby!

Vinc. Eh!

Ellen. Ho! he! he!--Hubby!

Vinc. (*starting up*) Hubby! Oh, my cursed stars!

Ellen. Did you speak, Sir?

Vinc. Yes, Ma'am, I was blessing my happy stars.

Ellen. Your stars! why, la! I know all the stars, but they never told me that any of them were your'n.

Vinc. Accomplish'd! was there ever such a gawky idiot! Never mind, the more misery the better.

Ellen. (*poutingly*) You don't love me.

Vinc. Not love you, my---my charmer! Have not I flown to you on the wings of love?

Ellen. Flown on the wings of love! Trotted three miles on a pony, you mean. Why, father will gallop fifty miles after a fox; and some folks would think that not such good sport, either. (*peeping through her hands.*)

Vinc. I'll fly the country.

Ellen. Come, come, no shirking! Will you flop down on your knees, and swear you love me?

Vinc. Yes; there (*keels*), I do swear. (*Ellen beckons in Rosine.*)

Ellen. And do you call the world to witness?

Vinc. Yes; I call the whole world to witness that I love--- (*seeing Rosine.*)

Ros. Proceed, Sir.

Vinc. Rosine! (*starts up*) Joy, sorrow, shame, confound me. (*advancing to Rosine, she repels him.*) Oh, do not fear me!

Ros. No, Vincent! I only feared while I loved.

Vinc. While you loved!—distraction! Why do you smile; Rosine?

Ros. Because all here is at peace (*placing her hand on her breast*). Why don't you smile?

Vinc. I own appearances condemn me; but I was deceived, imposed upon (*with rapidity*). May each hour of my life be an accumulation of misery! may my death be more—

Ros. Did not I behold you at that lady's feet?

Vinc. Yes; I was about to sacrifice my happi-

ness; but 'twas to preserve a parent. Could I behold a father, respected and beloved, on the verge of ruin, and not devote myself to save him?

Ros. Could you behold a woman, a stranger, without a friend, and yet devote yourself to her destruction?

Vinc. 'Twas intemperance—'twas madness! If a life of repentance can atone, here will I hang for ever. Pity me, Rosine! (*kneels.*)

Enter Sir Guy.

Ellen. (*weeps*) Very well, Sir, "a man of words and not of deeds."

Vinc. To be jealous of a—a prating cockatoo, that was forced on me by that old blockhead her father. (*seeing Sir Guy*) Now, 'tis all over with me.

Ellen. I won't be called a cockatoo. (*they follow Vincent up and down the stage.*)

Sir G. Oh, you most tremendous of villains! Where are my servants? Load all the blunderbusses!

Vinc. With all my heart—muzzle high.

Ellen. I won't be called a cockatoo.

Vinc. Will you leave me, Rosine?

Ros. Vincent, farewell! [*Exit.*]

Sir G. Sir, I will not be treated thus.

Vinc. Gone! I defy the malice of fate to add another plague.

Enter Suckling.

Suck. When man was created, and before the alambic of ratiocination—

Vinc. (*interrupting him with vehemence*) Fiends! tortures! my horses—servants—(*rushes out.*)

Sir G. Dam'me, but I'll hunt him! (*follows Vincent, Suckling and Ellen exeunt hand in hand, laughing and pointing at Sir Guy.*)

END OF THE THIRD ACT.

ACT IV.

SCENE I.—Enter Farmer BROADCAST, with Whip, and booted, meeting Dame BROADCAST.

Broad. Here, wife, take my whip, and put this receipt by safe.

Dame. Did you see Mr. Cleveland, or did the steward receive the rent?

Broad. When my landlord heard I was there, he sent for me, in his sick chamber, and asked kindly after the crops and cattle, and you, and so forth. Says he, "Your wife, when a girl, used to run wild about the park with my undutiful daughter." I had nearly popped out that the hated Count Villars was here; but a trembling dame came on the old man, followed by one of his fit.

Dame. 'Tis not for the likes of me to judge; but perhaps his unkindness to his daughter lies heavy on his conscience.

Enter a FARMER, hastily.

Farm. Neighbour—dame—don't be frightened,

Broad. No, no, I bea'n't (*alarmed*).

Farm. Your boy—

Dame. Speak!

Broad. Is he alive?

Farm. Yes, and safe.—In trying to save my child's life, who fell into the river, and nearly lost his own—but he's safe, I tell you—I ran before, least, seeing him in other clothes, should alarm you.—He's here! (*Exit.*)

Enter GEORGE, who runs into his mother's arms.

Dame. My dear babe !

Broad. What happened, my lamb ?

Geo. Indeed, father, I was not to blame—the flood had left the footbridge wet and slippery ; my schoolfellow ran, heedlessly, and fell in.—I caught him ; but the stream was very strong, and I had not the heart to let him go, so I fell in too.

Dame. My kind, brave, boy !

Geo. When I recovered I found myself in the arms of a gentleman, who had plunged in.
[*During this COUNT VILLARS has entered, and placed himself behind Broadcast.*]

Broad. Where is he, that I may bless him ?

Geo. Here, father—this is my preserver ! (*running to Count Villars.*)

Dame. A mother's blessing be upon you—

Broad. (*Oppressed with surprise, gratitude, and shame, attempts to express his feelings by pointing up to heaven, and striking his breast.*)—You are a father—I need say no more. To shut my door against the saviour of my child—It don't signify—I can't look you in the face.

Count Vil. (*taking his hand*) Your feelings I honour—your prejudices I pardon.

Broad. Oh, thank you ! thank you !—But, you feel cold and aguish. Go, Dame, and get some garments to the fire, and heat some elder wine.—Run and help, boy ! (*Exeunt Dame and George*) If I had but the sense to hit on some way to serve him !—Ah, Sir, let me persuade you to go to Mr. Cleveland's, just to—

Count Vil. Go to Cleveland ! (*aside*) he will ask where's the proud Count Villars ?—here, a wretched outcast and a beggar !—Where his illustrious progeny ?—the degraded minion of lust and dishonour !—Perish first ! If I have merited your gratitude, pay me by your secrecy.

Broad. His daughter, your wife—is she happy?

Count Vil. Yes; for she is dead.

Broad. Poor dead lady!—The old man never held up his head after—he made a fresh will, and has given all his estate to a worthy gentleman, Mr. Templeton.

Count Vil. (aside) Ah, the name of the villain that bore away my child!—Worthy! (*with violence*).

Broad. What's the matter?—There's no sin in saying a man's worthy—is there?

Count Vil. I shall betray myself (*aside*).—No.

Broad. His son's a little matter skittish like, not penn'd in properly when young, and bad hedges make bad cattle.—Between ourselves, he had a bit of a sweetheart here.

Count Vil. Hecrel here! where is she? (*with vehemence*).

Broad. I don't know.—Ecod, he frightens me! and I never thought I should be afeard of a Frenchman.—You had better ax young squire about it; he can't be far off, for there's his servant.

Count Vil. Ah, fortune, this is all I asked! (*showing pistols*)—A father's curse weigh down thy steps, till a father's vengeance shall o'ertake thee! (*rushes out*).

Broad. Pistols! there'll be murder!—Here, wife, where's my constable's staff?

(*Exit into the house*).

SCENE II.—MR. TEMPLETON'S. *Table and implements of writing.*

Enter ASPIC with a memorandum book—seats himself—writes.

Asp. “Eyes, folly; teeth, whales.” There you are, my pretty, vain Mrs. Templeton, as large as life; if I could persuade you into the badinage of an in-

trigue, it would finish the character with spirit, and effect. (*rises, leaving the book on the table.*) I wonder she don't come (*looking out of a window*). What, eh! bailiffs! (*runs from the window*) How the devil could they ferret me out here? (*peeps*). I know you, you faithful followers of genius! Miserable reflection! That the proceedings of the court of Apollo should be supersedable by the court of Common Pleas; that the poet's bay should be withered by the cauliflower wig of a counsellor; and that the rules of composition should be accompanied by the rules of the bench. If I could but get at some of the produce of the strong box—'tis the talisman of flattery must unlock it—I'll instantly bribe the porter to say I've got out of the country, or have got into parliament. [*Exit hastily.*]

Enter MRS. TEMPLETON.

What can be the matter with my husband? he sighs, seeks solitude;—sure he can't be vulgar enough to be jealous? If he thinks me unworthy his confidence, I shall not consider him entitled to my sympathy.—I wonder where Mr Aspic is. One must load these literary gentlemen; for a fashionable author is, now, become as necessary an appendage to a stiltish party as a confectioner; or, a Bow-street officer—(*going to the table*). His commonplace book, I declare! Now for a peep! I know I'm his heroine; but if there be any fulsome compliments I shall prohibit the publication—(*reads*) “A sketch—Mrs. Templeton, alias Mrs. Argus, & all”—all what—“all eyes! which she rolls about “as industriously as a sightless pauper, and with the “same effect, for it excites our pity!”—Pity! I'll tear them out! I'll never open them again, only to have evidence of the villain's treachery.—“She “smiles for effect without cause, and never shews “her teeth without shewing her folly—” (*cries with veneration*)—“Swallows flattery as voraciously as

“the Malestrom in Norway does whales, tho’
 “in the vortex is wrecked.” What! (*with solemnity*)
 is wrecked a husband’s happiness!—Ah, am I
 awake—Well, madam, what say you to the charge?
 —Guilty!—Vain, unthinking woman! Oh, I could
 kiss the venom’d ink!—What’s to be done?—Ah,
 it shall be so! (*writes in the book*)—My husband
 comes;—let me conceal—no, he shall judge of the
 sincerity of my repentance by the voluntary ex-
 posure of my follies (*throws the book on the ground,*
and retires).

Enter TEMPLETON.

Temp. This agony of suspense is insupportable! No letters from London—no messenger! Mr. Damper gone without a parting word!—Hitherto I’ve concealed from my wife the tortures I endure, but soon, alas!—What’s here? (*takes up the book and reads*)—“Mrs. Argus—excites pity—flattery”—Unmanly libeller! Ah, what follows is in Julia’s character.—“To this she pleads guilty; but, happily, the same moment that unmasked a hypocrite, impressed on her heart a keen sense of her folly, and with it the resolution of seeking happiness in the active duties of a wife, and in the indulgent forgiveness of an affectionate husband.”—(*she comes unperceived, and kneels by his side*).

Mrs. Temp. Oh, Sir, pardon!

Temp. Julia, joy of my life, rise to my doting heart! (*embraces her*)—Blissful moment! it will sweeten my dying hour!—But, oh!—

Mrs. Temp. You tremble!—Your wife will entreat to partake your joys—but she demands to share your sorrows.

Temp. Your husband is a beggar—ruined!—worse—the cause of other’s ruin!

Mrs. Temp. (*faintly*) Is there no hope?

Temp. None.

Mrs. Temp. Then we must welcome resigna-

tion. Oh, I could cherish the grief that has awakened in my bosom its better feelings, but for the agonising thought that I may have caused this ruin ;—teach me, Sir, what can I do ?

• *Temp.* Nothing, dearest wife ! we will wait the events of to-morrow.

Mrs. Temp. To-morrow ! do not afflict me with that hated word.—Where's Vincent ?—Where your firm friend Mr. Dämper ?

Temp. Gone.

Mrs. Temp. Gone ! he seemed your shadow.

Temp. But when the sun of my prosperity set, the shadow vanished.—Ah, here comes that vile libeller !

• *Mrs. Temp.* Templeton ! no resentment, I entreat.

Enter ASPIC.

Asp. The porter (Cerberus) took his sop kindly enough ; now if I can doze Templeton and his wife—and, luckily, they are here.—What an interesting contemplation is domestic happiness !—what a lesson to the world ! Had I permission to record such worth, its advantages could not be lost—(*feeling for his book*)—could not be lost—(*tremulously, and running to the table*), as I said before, could not be lost—(*searching eagerly about the room*).

Temp. Is it this, sir, you seek ?

Asp. This ! No ! Oh, yes ! my sketch book, where my friends' virtues and graces—(*peeps into it, and drops it*)—Punished—beat—shelved—defunct—screwed down and buried ! The fangs of the law without, an enraged woman's tongue within ;—however my shoulders will bear any thing but the paralysing paw of a bailiff. Sir, I, I, must live—

Temp. Did it ever occur to you, sir, that you must die ? Is this base perversion of the human mind to be endured ? 'Sdeath, while the legal in-

former is marked for public contempt, shall no ignominy attach to the literary one? While the maimers and slayers of this perishable body are consigned to the hangman, shall the stabbers of reputation, the assassins of our immortal honour, escape whipping? Call me not proser or exaggerater; 'tis the crying sin of the age; and he who stands forward publicly to expose and condemn it, is well entitled to the protection of the sons and daughters of virtue. Yet, here, sir, I am sorry you impose on me the harsh task of requiring you to quit my house.

Asp. I would directly—but the danger—

Temp. My servants shall conduct—

Asp. Thank you, sir; but that's very unnecessary; there are attendants without very willing to take all possible care of me, and see me quite safe to town. Mr. Templeton, I throw myself on your mercy. The fact is, sir, there are bailiffs (*Templeton stands, and trembles*) about the house, and if they see me—

Mrs. T. Templeton, you tremble!—Heaven's do you fear?

Temp. Dear Julia, be composed. Sir, while I have power here you may remain. Retire to some proper place of safety.

Asp. Thank you, sir. Proper place! I know the poet's—the garret. [*Exit.*]

Temp. Lost! disgraced! Oh, heaven end my days soon, soon!

(*Vincent Templeton rushes in.*)

Vinc. I saw suspicious men lurking about.

Temp. Be not alarmed, my son; you are in perfect safety. These men, Vincent, wait for your father.

Vinc. My father! (*with horror.*)

Mrs. T. (*shrieks*) No, no.

Temp. Hark! a noise!—They come.

Vinc. Close all the doors.

Mrs. T. Fly! conceal yourself, dear Templeton, for my sake.

Temp. By your leave, love (*kisses her hand*).

Vinc. Secure the doors, I say.

Temp. I say no! As this will be the last exertion of my authority, at least let it be an act of justice. —I command that all have free admittance. Dragged to a prison—my honest name given up to calumny—to—they are here.

(*Enter a STRANGER.*)

Str. Your name is Teynpleton?

Temp. Yes.

Str. When you have perused that (*presenting a paper*) I shall require you to go with me—I will wait in the next apartment.

Temp. Sir, I will not detain you long; the feelings and decision you have shewn in discharging your duty demands my gratitude.

[*Exit STRANGER.*]

Vinc. Father!

Mrs. T. Husband!

Temp. 'Tis hard to part.

Mrs. T. Part!—Never! never!

Temp. The die is cast.—Let me see at whose suit (*unfolds the paper; utters an hysterical exclamation, and falls back, Vincent supporting him.*)

Mrs. T. (*snatching up the letter*) "Acquaint you, that at six o'clock—Mr. Cleveland departed this life." Liberty—liberty!—Oh, my husband! Let the warm breathings of affection call back your fleeting spirits—these drops of sympathy reanimate your drooping heart!

Temp. (*recovering*). Heaven's will be done! Give me the paper (*reads*) "His last moments were employed in calling for and blessing you, his beloved friend."—This demands a tear of grateful sorrow.—Merciful Father! how inscrutable are the dispensations of thy providence!

Enter SERVANT and an attorney.

Serv. That is Mr. Templeton,

Att. Sir, the critical state of your affairs has compelled my client to institute what you may consider harsh, legal proceedings; but the security of your person—

Temp. I am ever willing to pay a prompt submission to the laws of my country; but if you will have the forbearance to suspend further proceedings till you have accompanied me to the late Mr. Cleveland's—

Att. Is Mr. Cleveland no more? (*Templeton presents the paper*). The disposition of his property in your favour is well known. I will attend you, sir; and am rejoiced that this event will preclude the necessity of pursuing measures so destructive to your happiness and honour.

Temp. Julia! Vincent! Oh, thus supported, thus beloved, thus blessed, I hardly dare trust my happiness.—
(*Exeunt.*)

SCENE III.—*A sequestered Place in a Park.*

Enter VINCENT TEMPLETON.

Temp. A father restored to affluence and happiness, my whole heart turns to thee, Rosine! (*takes out a miniature.*) And, must I be content with this inanimate semblance of my love?—Though it was pencilled in early years to gratify a doting father's pride, yet here is the promise of those matchless charms, which time has perfected; here beam the eyes of ingenuous innocence, which seem to smile on me forgiveness. (*During this Count Villars has entered—he sees the picture—starts—then snatches it from his hand.*) Ah, a robber!—Villain, I part with that picture but with life!

Count Vil. With life be it, then. (*Gives him a pistol—retires a few paces.*) Defend yourself!

Enter BROADCAST and Gamekeeper.

Broad. (*rushing between them.*) Hold!

Vinc. Secure that villain.

Broad. Dare not to lay a hand upon him.

Vinc. What means this insolence?

Broad. Sir, I'm his Majesty's own petty constable, and when there's any fighting, this is my authority for making one among them. And I would die to serve that man.

Vinc. Why?

Broad. Because he would have died to save my child.

Vinc. He has robbed me.

Broad. Robbed you! (*Surprised and dejected.*)
No, sure.

Vinc. Wrenched from my hand a picture of value inestimable.

Broad. Why, some people do take violent fancies to pictures. (*slily to Villars*)—Never heed—give it him again.

Vinc. This mystery shall be explained. Will you restore—

Count Vil. Never!

Vinc. What motive urged you to seek my life?

Count Vil. Intermittable, mortal detestation.

Vinc. Who are you? (*Count Villars by the action of his hands repels him, and turns away.*)
Seize him, and follow me. I'll make good the charge.—Old man, do your duty. [*Exit.*]

Broad. Young man, do yours (*to Gamekeeper*)
Why don't you follow your master?

Game. He ordered me to bring this man.

Broad. He ordered you! and, pray, who am I?
Come, don't stand there bullying me, and making a riot, or, as peace officer, I'll break every bone in your skin.

Game. Very well, you act at your peril!

[*Exit Gamekeeper.*]

Broad. At my peril be it.

Count Vil. (*Taking out the picture*) Rosine! Oh, my child! (*Broadcast listens with astonishment.*)
Here thou art innocent, and I may kiss thee.—No

more!—For thus a wretched father casts thee from him—thus, on the base earth—he—(*looks at the picture, hesitates, and thrusts it in his bosom.*)

Broad. His daughter—Miss Rosine—the daughter of—it may save the old man's life—it may give happiness—justice.—Noble Sir, you must come with me to Mr. Cleveland's.

Count Vil. Never!—

Broad. You forget you are my prisoner.

Count Vil. I did, indeed!—Vain worm, not yet humbled!—still wilt thou turn; when trampled on.

Broad. I tremble to offend you,—but as it is to serve you, I'll even drag you there. (*Seizes him, and is drawing away when a bell tolls at a distance, he drops Villars' hand.*) 'Tis all over!—that's old Mr. Cleveland's knell.

Count Vil. (*Kneeling*) Father of mercy! grant him that pardon which he denied his child.—Hope,—hope no more.—Come, whither do you lead me?

Broad. Not to Mr. Templeton's.—No, I'll go to Sir Guy Stanch.—Yes—come Sir.—'tis my office to walk first.—I know you'll not think of running away; because if you were, I'm so touched in the wind I could not overtake you.—No, he won't go.

Count Vil. Bury my secret deep in your breast. (*taking his hand*).

Broad. They mun tear my heart out that gets at it. [*Exeunt, Broadcast supporting him.*]

SCENE IV.—*An Apartment at Mr. CLEVELAND'S. A Cabinet sealed, secretary Table.—A knocking at the Door.*

Enter Mr. CLEVELAND'S STEWARD and SERVANT.

Stew. If that be Mr. Templeton, shew him in here. [*Enter Templeton and Attorney.—Tem-*

pleton places his hat and cane on the table.] Mr Templeton, my honoured and beloved master, in his last moments, requested that you would make the disposition of his property immediately known.

Temp. I will obey. His testament will be found here (*pointing to the cabinet*). Break the seals. (*He opens a drawer, and takes out a will.*) As you see—the date unaltered—the same you witnessed.

Stew. The same.

Temp. Are there any other papers?

Stew. None. (*Examining the cabinet.*)

Temp. Pray, leave me. [*Exit Attorney.*] No alteration—no codicil.—None. (*Turning over the leaves a paper falls out unperceived.*) Kind, liberal, lamented friend! If it might be permitted thee to know that this has saved thy friend, from disgrace, from poverty, from a prison—how wouldst thou rejoice!—What's this? (*picks up the paper.*) Ah! In Cleveland's hand.—What do I fear?—“Why do I tremble?—(*reads.*) “Templeton, I have seen her—I have beheld the child of my injured daughter—her look, voice, the jewel she wore, confirmed it!—Can I meet a merciful judge, not showing mercy? My eyes grow dim—my senses fail.—This informal paper will with you be sacred, for it is sealed with the impression of divine forgiveness—it is witnessed by the all-seeing eye of Heaven.—All I have is Rosine Villars.” (*Templeton stands in speechless agitation, then looks fearfully round, and thrusts the paper into his bosom.* In terror exclaims) Who's there?

Enter STEWARD and ATTORNEY.

Stew. Did you call, Sir?

Temp. No—Yes.

Att. With your leave, (*takes the will.*) Perfectly satisfactory.—This you publish as Mr. Cleveland's last will? His grateful feelings overpower him

Be composed, Sir.—This you pronounce—(*Templeton utters a groan—snatches the will from his hand, and rushes off the stage.*) His senses are disordered.—Mr. Templeton?—(*they follow.*)
[*Exeunt.*]

END OF THE FOURTH ACT.

. ACT V.

SCENE I.—*An Apartment at Sir GUY STANCH'S.*

Sir GUY *discovered asleep.*

(*A harp is heard in the adjoining room.*)

• Sir G. (*waking*). Eh! what's that? Oh, Nell, claw, clawing at her harp-strings, as if the only road to a lover's heart was through his ears. (*Rings a bell*). Stubborn jade! she has refused three husbands; and to none of which she could reasonably object, for she had not even seen them.

Enter SERVANT.

Send my daughter.

Serv. My young lady has rode out with your ward. • [Exit.

• Sir G. With Suckling! a sneakup!—If he had any pluck he'd run away with her.—Give me a dasher, a thunderer, a fellow that would brow-beat a vestry meeting, dumb-found a turnpike meeting, and bang a bench of justices with Latin and logic till they don't know a subpoena from a mittimus.

• *Enter ROSINE.*

Ah! what dolefull ditty were you twanging?

Ros. A plaintive native melody—'twas written by my father; and while I sing it memory recalls those happy hours when my beloved parents listened to the strain, and fills my heart with so sweet a melancholy that joy itself might envy.

Sir G. Poor child!

Ros. Oh, call me by that name, 'tis long since my ears were blest with the sound!—But has not my friend Ellen return'd? I feel an alarm I hardly can account for.

Sir G. Alarm!

Ros. She seem'd agitated by extremes of ~~grief~~ joy and grief; she laugh'd, wept, accused you, Sir, of tyranny. Indeed, Sir Guy, a parent's harshness, acting on the free and dangerous principles of the education she has received, may lead to the most imprudent consequences.

Enter SERVANT.

Serv. The constable wants your honour.

Sir G. I'll come to him.

Ros. The magistrate wait on the petty officer! Pray let my dismissal prevent so flagrant a violation of legal decorum.

[Courtesying and exit; he bows,

Sir G. Shew him in.

Enter BROADCAST.

Broad. Lord, Sir Guy, what do you suppose?

Sir G. Any thing happen'd to the hounds at walk?

Broad. No; 'tis an unfortunate Christian—

Sir G. Oh! that's all; ecod, you frighten'd me.

Broad. A French gentleman, a prisoner—

Sir G. Broke his parole, perhaps?

Broad. Nan—

Sir G. Broke his parole?

Broad. No; young Squire Templeton and he had a tussel; but I don't believe any thing's broke. They were going to gun it wi' pistols.

Sir G. Who is he?

Broad. That's it. (*mysteriously*) Oh, Sir Guy, if you did but know what I know!—

Sir G. Indeed! well?

Broad. Then you would know—

Sir G. What?

Broad. Nothing. (*Recollecting himself.*)

Sir G. Very likely.

Broad. Hush! I'll amaze you. (*with consequential insinuation.*) He's a foreign nobleman, come to England by sea; married a lady; had a daughter; she grew up to be a woman. There! what do you think of that?

Enter JERRY, with a letter.

Jerry. Oh, master! the horses are come back without my young lady and 'squire.

Sir G. Eh! what?

Jerry. The boy that brought this letter says they were setting off in a chay and four.

Sir G. What, eloped? Oh, the ravisher! Oh, the villain! I, who thought him such a quiet, amiable, sweet boy.—Jerry! Mount all the grooms; saddle Somerset for me: my daughter's eloped, away!

Jerry. Which road?

Sir G. The north, you blockhead! all fools go that road; the wise ones come south. Now we shall hear what the scoundrel can say for himself. (*Reads*)—"Dear dad elect"—

Broad. Come, that's affectionate and pretty enough.

Sir G. Hold your tongue! "You have always wish'd for a dashing son-in-law, and dam'ne you shall have one"—There's a reprobate—"Your absurdities we pity, your tyranny we pardon."—How very kind!

Broad. So it is, indeed; quite forgiving, and without any malice, like.

Sir G. "So open your arms to receive us; your house to receive the county; and give the enclosed hasty sketch of a wedding-dinner to the cook." Impudent rascal! "Adieu!—the boys are mounted, the whips crack, and hey for the blacksmith."

Broad. (*snapping his fingers.*) Smart and funny, I'll be shot if it beant; he! he!

Sir G. How dare you laugh, sir? If I can but catch a view of the rascal.

Enter JERRY.

Jerry. Somerset's ready, sir.

Sir G. Then, dam'me, we'll have a gallop for it.

Broad. (*Stopping him.*) But stop—you forget gentleman lock'd up in room.

Sir G. Let him stay there—I shall be back in a day or two.

Broad. But he's a foreigner, and don't understand the law.

Sir G. Then tell him, to comfort him, that I'm a native, and pretty much in the same situation.—Oh! that my own flesh and blood should run away from me! Why, such an atrocious thing, farmer, has not happen'd in the county.

Broad. No, never, Sir Guy, since you ran away with your lady.

Sir G. Zounds! [*Exit hastily.*]

Broad. He! he! dam'me, that touch'd him a little matter in the withers, he! he!—Made the old one kick up a bit, he! he! [*Exit.*]

SCENE II.—*A Stone Room, unfurnished, except with a Chair and Bench.*

VILLARS discovered.—(*He rises.*)

Count Vil. Why should I longer struggle with my fate? Cleveland's death dooms me to wretchedness;—my lost, unhappy child dooms me to dishonour. Well, soon or late, the common friend of misery will call me to his cold embrace; and then, my sainted wife—yes, then we meet again! In that hope my soul reposes; and he whose vile philosophy shuts from the human breast the Christian's hope, inflicts a curse on man more

heavy than ever tyrant could impose. (*A harp plays without—Rosine sings.*)

Ah! vous dira Je Maman
Ce que causè mon tourment
Depuis que j'ai vue Silvandre
Me regardant d'un œil tendre,
Mon cœur dit à chaque instant,
Peut on vivre sans amant.

Hark! ah, that well-known strain! hush, my heart, still those tumultuous throbs!—(*Rosine sings again.*) 'Those words—that voice—it is—it is my child! Rosine, thy father calls! (*A female shriek is heard.*) She hears me—Oh, give her to my arms! Stain'd, lost as she is, let me but hold her to my heart, I'll bless—forgive—(*The door is unlocked*)—

Enter ROSINE, who rushes into his arms.

My child!

Ros. My father!

Count Vil. Stand off, and let me gaze on thee, image of thy mother! Oh, where in that form can guilt find an habitation? Swear that thou art innocent! in mercy deceive me, and let me die in the blest delusion.

Ros. By my mother's revered name!—

Count Vil. Ah! her name has roused me to the call of injur'd honour—yes, degenerate girl, I will speak of her. In prison she was my deliverer; in sickness my solace; in battle my preserver—wounded, and confounded, with the dead and dying, her eager eye sought and found me. The plunderers came to rifle and destroy; the deadly tube was levelled at my life; her faithful bosom was my shield, and received the fatal wound. Oh, what a moment! I call'd on death to join us.—She, expiring, cried, "We have a child—live! a father's hope shall sustain you!"

Ros. My mother! Oh, my mother! (*Clasps her hands, and looks up in fixed devotion.*)

Count Vil. Yes, Rosine, it did sustain me. What made light the chain of slavery, that corroded to the bone this soldier's arm? A father's hope.—When famine convulsed my frame, what gave impulse to the stream of life? A father's hope.—When the waves overwhelm'd me, what made me with gigantic strength grapple the naked rock? A father's hope.—Naught, naught could bow me down with shame and sorrow, but an ingrate daughter; naught break this heart, but the deadly woundings of a child's dishonour!

Ros. Oh, hear me! In justice I demand—in mercy I implore!

Count Vil. Why cling to me? What would'st thou of a wretched beggar?—What have I to bestow?—Yes, a father's curse! (*Going to kneel, he raises his hand to heaven.*)

Ros. (*Seizing it.*) It will not be recorded!—the sainted spirit of my mother, that knows my innocence, will shield me from a father's malediction.

Count Vil. Innocence! say on.

Ros. Oh, were I the guilty thing my tongue disdains to name, could I meet the dreadful vengeance of your eye? Should I not grovel on the earth, and with these hands dig out a grave to hide my guilty head? Could I, my father, stand thus erect, proudly demanding the strictest scrutiny of man—challenging, if I lie, the avenging bolt of heaven?

Count Vil. It is the voice of truth—it is the confidence of purity—it is the consummation of a father's hope—I must, I will believe thee.—(*Rushes into her arms; he then staggers from weakness.*)

Ros. Ah! that death-like paleness! you tremble! within there! help!

Enter BROADCAST.

Broad. Ah! Miss Rosine; then all will come right.

Count Vil. A frame, worn down by misery, is unfitted to bear the extremes of good or ill. Come next my heart—nearer—nearer—I have much to learn of thee; for they told me a tale.

Ros. You shall know all, my father—all my imprudence—all my sorrow; but I have found such kind, such noble friends!

Count Vil. Beggar that I am, how shall I reward them, how provide for thee?

Ros. I am young, and able.

Broad. Yes, and so am I, Sir—strong as a bull, and I'll work this flesh off my bones—

Count Vil. I must not live on charity.

Broad. No, Sir—but though you won't accept charity, you might be pleased to shew some; and I'm sure it would be charity to let me rub out some of the debt that's scored up against me. Indeed, Sir, I can't eat, or sleep, till you are so kind and magnanimous to enter the door that this hand shut against you.

Count Vil. My worthy Englishman, believe me, with every consideration of gratitude, to be your friend.

Broad. And, noble Sir, believe me to be yours, without any consideration at all.

Ros. Come, Sir, let me lead you hence. Oh, how I long for my dear friends to partake my happiness! how my heart pants to repeat to each, and to all—"I've found a father." [Exeunt.]

SCENE II.—Another Apartment at Sir Guy's.

Sir G. (without.) Come along, you runaway baggage! (pushing in *Ellen*) Bread, water, and a bed-post shall be your portion.

Ellen. I'm very sorry, papa.

Sir G. That you were stopped.

Ellen. Yes, papa.

Sir G. That is my reward for all my care; such

care, that I defy you to prove, in a single instance, that I ever allowed you to follow your inclinations.

Ellen. Very true, papa.

Sir G. Then what have you to say for yourself?

Ellen. That I would rather be chosen by the humblest, than offer'd to the noblest.—You had better turn me into the paddock, with your colts and fillies, to be view'd and knock'd down to the best bidder,

Sir G. That would not do, my dutiful daughter, because all there are warranted free from vice and blemish. Oh! here comes your blushing companion.—

Enter SUCKLING, dressed in a fashionable great coat, boots, and a white cockade in his hat.

Welcome back, sweet, modest Mr. Suckling.

Suck. Thank you, Guy, thank you—your hand, old boy. Pshaw! anger's vulgar, and penitence pitiful.—Upon my soul, you old ones should make allowances for the erratic flights of us young devils: for somehow, curse it, we can't help it.—Come, won't you? (*offering his hand.*)—Oh! as you like. Ah! Ellen, my adored!

Sir G. His impudence confounds me!

Ellen. (*To Suckling.*) It was all your fault we were stopp'd.

Suck. Don't say so, my darling.—Now, damn it, Guy, you shall judge. Just as we were stepping into the chaise, the landlord popt the bill of fare into my hand, turtle in the van; and I thought it would be generalship to lay in an ample supply to assist baviacking in our retreat. At that moment who should pass the inn but my tutor, Parson Porker; the scented gale attracted his well-informed nose, and he demanded admittance; and the landlord unluckily saying that the room contained a pair of turtles going to Scotland, he, mistaking us for Calipash and Calipee, rushed in—

Ellen swore, and I fainted—I mean, I swore, and Ellen fainted.—But, reckless of both, he anathematised the blacksmith, vowed the church should not be cheated of its dues, and before my eyes voraciously devoured the contents of the interesting tureen my care had provided.

Enter ROSINE, running.

Ros. Oh, my dear Ellen, I'm so rejoic'd at your return!—(to Sir GUY) You now see, sir, the effects of your severity—But, may not I sue for pardon?

Sir G. No, never. D—

Ros. (stopping his mouth.) Oh, fie! Come, you would not frown if you knew how a smile becomes you.

Sir G. Nonsense! A smile become me! (*Simpering.*)

Ros. And so, because you have always been so correct, so scrupulously accurate with the sex yourself, you make no allowances—

Sir G. (smothering a laugh.) I correct!

Ros. Yes; I say, because you, sir, married a lady with the consent of friends, and—

Sir G. (chuckling:) No—I say—hush! a word—(in a loud whisper)—I ran away with her.

Ros. Oh, you dangerous man! I declare I'm afraid of you. (Motions Ellen and Suckling to keep back.)

Sir G. Hush! Nonsense! Come here,—there was a time—you understand—

Ros. Ah, that roguish eye!—But how did you persuade her?

Sir G. I had a way with me—Says I, “there stand your family, that want to make you miserable, here stands your lover, that will make you happy.”

Ros. Bravo! Excellent! And what did she do? (Beckons down ELLEN and SUCKLING.)

Sir G. What did she do? Why, was it likely,

that, encircled in the arms of the man of her heart, that she would mind what a damn'd old fool of a father said?

(*In saying this he turns round, and sees ELLEN and SUCKLING in the situation he has described.*)

Ros. Ha! ha! Come, own you're caught—no escape—confess!

Ellen. Ah, my dear papa!

Suck. What do you say now, Sir Guy?

Sir G. Fairly beat, I own, and I forgive you.

Ros. And now, my kind, my generous friends, rejoice with me, for I have found a father—not St. Clermont—Count Villars is my father.

Sir G. Count Villars! What, is Rosine the poor and neglected heiress of Cleveland?

Ros. Even so; but sorrow shall not deform this happy day.

Sir G. Where's my guest? Let all accommodations be provided.

Ellen. Be that my care.

Sir G. And a splendid entertainment.

Suck. Be that mine.

Ros. Oh, let none dare to say that human misery is beyond the reach of happiness; or, that the humblest creature lives in vain. [*Exeunt.*]

SCENE THE LAST.—*Mr. Templeton's.*

Enter Mr. TEMPLETON, followed by Mrs. TEMPLETON.

Mrs. Temp. Templeton, you alarm me!

Temp. Hide me from the world, from myself. I found Cleveland's will—here it is—it placed me beyond the reach of fortune's malice; but a paper fell from it, which blasted all! I thought of home, of liberty, of you! Hope died within me, and with it fear, with it virtue. I listen'd to the tempter.—I—Oh, look more mildly on me—I concealed the fatal paper—here, in this tortur'd bosom—read—

Ah! 'tis gone!—(*Throws open his waistcoat.*)—I'm undone—exposed—they'll pursue me—Close the doors!

Mrs. Temp. Templeton, recall your better thoughts. (*A noise without.*) Mr. Templeton can't be seen.

Enter SERVANT.

Serv. 'Tis Farmer Broadcast's son.

Mrs. Temp. No matter; go, go.

Serv. He says he has found a paper.

Temp. Ah! (*rustling past Mrs. Temp.*)

Mrs. Temp. This agitation will destroy you.—
Shew him in. [*Exit. SERV.*]

Enter GEORGE.

Geo. Near Mr. Cleveland's I found this paper.

Temp. (*with eagerness.*) Give it me—(*recovering, and patting his head.*)—Good boy—good boy!

Geo. I ran as fast as I could,—for, as you are always doing good, sir, I thought this paper might enable you to make some poor unfortunate people happy.

Temp. Oh! coward guilt! the tongues of babes can make thee tremble! (*Aside.*)

Mrs. Temp. I doubt not but you are scholar enough to remember what you read.

Geo. I only read the name of Mr. Templeton, madam.—For though my master tells me to seek for information every where, yet I would not have opened that paper for all the learning in the world.

Mrs. Temp. Dear child; go into my room, there are plenty of books—I'll come to you.

Geo. Oh, thank you, dear lady! [*Exit.*]

Temp. Let me secure these evidences.

(*Puts papers in chest.*)

Sir GUY STANCH; without.

Sir G. Delay I hate, and ceremony I despise.

Mrs. Temp. Again interrupted.

Enter Sir GUY STANCH.

Sir G. Excuse my intrusion, Mr. Templeton,

but your son, sir, has charged a gentleman with a robbery, so I have brought the accused to answer him—convinced that he will here receive impartial justice; for I am sure no selfish feeling will ever make Mr. Templeton swerve from virtue or from honour.

Temp. (agitated.) Oh, conscience!—I will endeavour to merit your good opinion.

Enter DAMPER and ATTORNEY.

Damp. The will not acted on?

(Apart to ATTORNEY.)

Att. No, sir; and my duty—

Damp. Hush! he's here,—Templeton, my friend!

Temp. (bows.) I'm glad to see you, sir.

Damp. You are engaged.—I'll retire.

Temp. Pray remain.—And, sir, your presence may be necessary.

Enter on one side VINCENT TEMPLETON, on the other VILLARS and ROSINE.

Vinc. (starts.) Rosine!

Sir G. Now, sir, produce your charge against this gentleman.

Ros. Aye, sir; of what crime do you accuse my father?

Vinc. Her father! then I am lost indeed.

Temp. This gentleman, criminal! If ever heaven impressed on man the character of nobility and honour, I behold it in this stranger.—What is your charge?

Vinc. None, sir; I am the culprit.

Temp. What means this mystery?

Count Vil. I will explain, sir: I am one of those unfortunate men, who, exiled from their native country, have sought this hospitable land. England, sir, contained my wife's large inheritance, contained a beloved and virtuous child.—I was thrown on your shores a very beggar, and found

my wife's inheritance possessed by a stranger; my child, by specious arts, withdrawn from her peaceful asylum.

Temp. (agitated.) What is this to me?

Count Vil. Thus far only—that the man who has deprived me of every earthly hope is Mr. Templeton—the man who drove my child to seek a stranger's protection is his son.

Temp. Your name.

Count Vil. The license from your government will tell you. (*Shewing paper.*)

Temp. Count Villars!

Count Vil. Yes, sir, Count Villars!

Temp. Why do you all hem me in?—let me breathe—What do you suspect? What would you say?

Sir G. That if you are the man I take you for, you will not refuse some of the valuable contents of that strong box.

Temp. Ah, sir; you and all shall judge me.

(*Whispers VINCENT, and gives a key.*)

VINCENT unlocks the chest, and takes out papers.

Temp. Look up, Julia!—the tempter environ'd, but has not subdued me.—(*Takes a paper from his son.*)—Rosine Villars, by the possession of this informal paper, which I now deliver, you become sole heiress to Mr. Cleveland's large possessions. By the destruction of this legal will, which, like a deadly sin, I thus cast from me (*tearing it*), I am, sir, your prisoner. (*To ATTORNEY.*)

Damp. The ordeal's past, and he is purified.

Count Vil. A prisoner! no, no—but I will not dictate generosity to my child.

Ros. All claims, Sir—

Damp. (Apart.) It will not be accepted.—If your heart, lady, does not dictate the means to save that suffering parent, all other efforts will be vain. (*Pointing to Vincent.*) Can you, unmoved, behold the tear of anguish roll down the manly

cheek of him you have said you love? Can you see his youthful frame totter beneath the weight of self reproach and despairing love?

Ros. Oh, my heart! (*To Villars.*) Have I your leave, Sir?

Count Vil. In that—in all.

Ros. Vincent! as for a father's sake you aspired to the possession of the lovely Ellen, perhaps, for his sake, you will not disdain the proffer'd hand of the humble Rosine.

Vinc. (*Falling at her feet.*) Angel of forgiveness! Rosine mine—a father saved—

Damp. Hold! the oak must not be propped by the saplin; its own native vigour shall sustain it.

Temp. What mean you?

Damp. That my friend is solvent, is prosperous!

Mrs. T. Best of men! how did you proceed?

Damp. Straight forward—look'd misfortune full in the face—look'd the creditors full in the face—threw myself and property again into the firm. My security gave them confidence, and their confidence confirmed my security; and thus, a few words of unsophisticated truth—

Temp. I hear you.

Damp. And a few hours of exertion, untainted by procrastination—

Mrs. T. I shall not forget.

Damp. Has restored my friend to prosperity and happiness.

Count Vil. While I view with transport this happy termination of our sorrow, this domestic compact of increasing love and amity, a sigh will force its way for the distracted world. Oh! be those days not far removed from us, when mad ambition shall bow the neck to justice and humanity, and the weary world repose again in Peace!

EPILOGUE,

BY MR. SMITH. SPOKEN BY MISS BOOTH.

WE read in every village in the nation,
Flourish'd in fine gold letters, Education:
Schools bring girls up, their beauty brings them thro',
Court brings them out, and courting brings them to.

To-nigh^t, we open school, our terms are *fin*,
Here sit the pupils—the head masters there.
We fag when usher-prompter gives the nod,
He plays the lesson, and the Pit's the rod.
When we our lessons say, what dire snip-snapping!
The monitor's a hiss, the prize, hands clapping:
But where's the author? vanish'd all at once,
We've thrust him in a corner—he's a dunce!

School games *all* play at: he who *plays* will write,
Trusts to the wind and flies a paper kite.
Your critic is a dragon, his game's snap;
Wives play at racket, widows play at trap.
When I eloped just now from old Sir Guy,
He hunted me with "Yoic eye, spy eye!"

'Twas well he did, or sure with hearts like *Ætina*,
Suckling and I had danc'd hop-scotch to *Gretna*.—

Now for the parlour-boarders, there's a beau,
Frog'd, booted, button'd up from ear to toe;
Whisker'd like puss, brows knit, and arms a-kimbo;
Chains rattling at his heels, Macheath in limbo.
He loves to run where fashion leagues with whim,
Follow my leader is the game with him.

But when alarm'd, his heart goes pit-a-pat,
Now bouncing this Box-door, now banging that.
If in a whisper I the truth may speak,
The bailiff's near—he plays at hide and seek!

Nay, if we stalk abroad, 'tis still the same,
And every state in Europe has its game:
The Continent at commerce tries her chance,
Beggary my neighbour was the game in France;
That game is up! she now pays off old scores
While Russia plays at—beat knave out of doors

EPILOGUE.

What says our Author to this sportive whin?
Shall what is sport to you, be death to him?
While Education o'er this favour'd Isle,
Rolling her tide like fertilizing Nile,
Invigorates with strength, embalms with health,
The poor man's cottage, and the dome of wealth,
Shall one new school, unaided by our betters,
Fall to decay before we've said our letters?
No! let me, kind, good masters, implore ye,
Night after night as Ellen trip before ye;
I like my place, smile, fix me in my station,
And kindly patronize our Education!

A
TREATISE
ON
INDIGESTION:
BEING AN
INQUIRY INTO THE DISEASES
ARISING AND CONNECTED WITH
THE FUNCTIONS OF THE STOMACH:
WITH
REMARKS ON THE LIVER,
AND ITS INFLUENCE ON THE GASTRIC SYSTEM.
TO WHICH ARE PREFIXED
SOME GENERAL OBSERVATIONS
ON
SCROFULOUS AND CUTANEOUS DISEASES.

BY T. M. CATON, SURGEON,
LATE OF THE UNITED HOSPITALS OF ST. THOMAS AND GUY.

London:
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1813.

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P R E F A C E.

My object in the present Treatise is to afford a selection of that information on those diseases which most concern every one; for the attainment of this end, I have arranged my definition, description, and cure of the diseases, rather on general than medical principles, in order that my delineations might correspond with every capacity: for I am of opinion, in all branches of elementary science, the less technical we are, the more correct will be our illustration, the result of which must be more accurate information: how far success will attend my course, I presume not here to investi-

gate ; at the bar of a liberal and enlightened public I have repeatedly appeared ; and if I am allowed to take, as the criterion of their approbation, the rapid sale of my works, I certainly stand on no inferior ground of eminence, an eminence that, to the latest hour of my life, I shall proudly estimate, and as sedulously cultivate.

10, Stanhope-street, Newcastle-street,
Strand, London.

C A T O N

ON

INDIGESTION.

DIGESTION is a term of a far more extensive and important signification, than a superficial view of the subject would lead us to infer ; indeed, the connection it has with the whole system renders it an object worthy of the most minute investigation ; for, immediately or remotely, its action is affected by every disease. Ettmüller, an author of no mean celebrity, says, many distempers, especially chronic ones, derive their origin from some fault in the digestive action of the stomach.

In the present tract my object is merely to convey a summary idea to the reader's mind of the nature of this class of disease.

where they are most obviously required, drawn from the observations of the most eminent and practical writers.

The first principle we have to consider respecting the functions performed by the organs of digestion, is that which leads us to reflect, that the whole animal system is maintained by the circulation of the blood; which, in a state of health, distributes to each organ the materials necessary to the continuation of life, and which the blood supports by the production of digestion: we are to recollect, that when the food has entered the stomach it then becomes solely subservient to vital power; for he who supposes digestion takes place from the dissolving action of the animal fluids, leads himself into a labyrinth of error; for, in point of fact, this action depends as much on vitality, as that assimilating ore which alone appertains to organic beings: the principles requisite to produce a healthy discharge of the functions assigned to this chemical process are, a certain degree of heat of the whole stomach, a free and copious mixture of saliva with the food in the

mouth, a given quantity of gastric juice, the regular and natural peristaltic action of the stomach, in conjunction with a certain pressure of the contraction and relaxation of the abdominal muscles and diaphragm; for the food here acts as an exciting cause to digestion.

The food thus introduced into the digestive organ passes very slowly through the pylorus of the stomach, and then into the duodenum; during its passage through the elaborate alimentary canals, it gradually becomes diluted with the juices secreted by the mucous glands that lubricate the parts; and thus, by a slow but certain action, the aliment is softened into a substance of a homogeneous character, which contains the chyle, and this chyle is destitute of bile; otherwise it would be yellow instead of white, for the colouring matter of bile is deep, and not to be separated or destroyed by any increased action of the peristaltic motion: when this chyle arrives in the duodenum, it then changes from chyle to chyme, where it unites with the pancreatic, bilious, and enteric juices, from which

mixture effected by the natural peristaltic motion of the intestines, a fluid bearing a striking resemblance in colour and principle is separated, termed chyle; the nutritious parts of this, or that portion which is destined to mix with the venous blood, is taken up by the absorbents, or chyloferous vessels of these surfaces; this is the progress that chyle makes, till, by repeated circulations, it loses its chyloic character, and is altered, in the subclavian vein, into one homogeneous fluid; it is a circumstance worthy of recollection, that whatever is the nature of the food received into the stomach, a chymous substance of nearly the same character is the produce. The process of digestion may be considered as a chemical animalizing solution, principally dependent on the gastric juice for its vigorous action; hence the human body may be considered an animal laboratory, in which a great variety of distinct processes are continually going on, dependent on chemical affinity, the stomach being the grand digester of all animals.

If reliance is to be placed on the happy and enlightened principles of modern

chemistry, they would lead us to infer, that the lungs are the real organs of digestion, because they assimilate oxygen with a certain portion of azotic gas, which enters the general circulation, not for the single purpose of nutrition, but also for the production of heat, for animal heat is generated agreeable to the extent and activity of respiration. Fourcroy, a chemist whose accuracy has seldom been questioned, because he took mathematics for his basis, and elementary principles for his guide, maintains that the blood in the liver undergoes a change correspondent to that which it suffers in the lungs; Des Cartes, Malpighi, and Boerhaave, each assert, that the secretion of this organ is only excrementitious, and added to the system by way of a general detergent. Some popular writers appear to me to have attached too much importance to this venous viscus; hepatic derangement is to them, what the *humidum radicale vel primogenitum* of Galen was, or the *callidum innatum* of the ancients; cancer, consumption, insanity, with too long a train to follow, all arise, agreeable to this

circumscribed hypothesis from hepatic derangement; and what are we to acquire from hepatic derangement but the necessity of asking another question, equally obscure?—What is the cause of this very accommodating derangement? Had the investigation been directed to organic derangement, science might have gained something compatible to the best interests of humanity; but, alas, this hypothesis relies for its support alone on their own dogmata, illustrated by no real process, supported by no comprehensive theory, and contrary, I maintain, to the structure and functions of the liver, as well as to the demonstrative phenomena of animal mechanism. It becomes not the dignity of genius to be actuated by anomalous caprice. I would recommend them to look for some connection between cause and effect; for effects all bear a relation not only to the cause from which they sprung, and on which they depend, but likewise on the precise disposition of the bodies they operate upon. To cure disease we must produce health; hence our treatment must be regulated by the gene-

ral as well as the local state of the system ; to the attainment of this object we must make our *modus operandi* conformable to the principles of vitality : let them trace to its fountain the origin of their theory, and conviction will flow with its brightest scintillations on their scepticism ; hepatic derangement, like all the oracles of vain, groundless, and absurd hypotheses, has, for a time, been the idol of folly ; but happy, thrice happy is it, that this novel, this nugatory doctrine, is now beginning to be gradually abandoned ; its brilliant coruscations, wanting practical rectitude, are already on the wane ; the fame it acquired was only ephemeral ; in the height of its popularity, in the meridian glory of its energy, it has fallen, and the dead calm of contempt pursues it. If is not to depreciate the real value of individual effort I thus speak, my object is merely to limit anomalous and delusive principle to its proper sphere.

To illustrate the idea respecting the liver being a filterer, we have to take into consideration, that the blood, in that viscus, frees itself from its hydrogen and

carbon, the result of which produces the constituent principles of bile, and thus enables the blood to resume its arterial energy : the body is constantly undergoing mutation, the stomach is the centre of that mutation, the old matter, by the absorbents, re-enters the circulation, hence the necessity of a depurator is apparent, the principal of which I conceive to be the liver; and this inference appears to be correct, from the blood beginning to resume again, in this viscus, its vitalizing powers, by again resuming its active arterial character : the spleen supplies the liver with blood, while the lymphatic system is occupied in bringing back to the general circulation the residuum of all the secretions after making them undergo an imperfect digestion ; the most striking and essential phenomenon that takes place in the vitalizing action is at that precise and peculiar moment when the blood passes through the arteries, and when it returns by the veins and the lymphatic vessels : it is during this transitory action, that those singular changes take place which so powerfully

influence every part of organization, and produce that beautiful system of action and re-action which constitutes the equilibrium of perfect health. It has been supposed, that the bile existed in the blood-vessels, and that the gall-bladder formed bile; if the first hypothesis was the fact, we should, of course, find bile and semen circulating with the blood, which we know is opposite to fact; so, too, if the gall-bladder formed bile, it would be rational to infer, that the urinary bladder separated the uric acid, or that the vesicula seminalis, instead of being the receptacle of the semen, formed it, which daily observation confutes; yet I believe the elementary parts of all secreted fluids are contained in the blood, which, in its general and regular circulation, brings to each individual organ the materials requisite to the continuation of its vitality; hence I also maintain, the bile has no share, or at most a mere negative one, in the important action of digestion; for when the biliary ducts are obstructed, and its passage into the intestines prevented, the functions of digestion are, not at all

disturbed, nor does the body, during this obstruction, lose any portion of its nourishment; hence, by what power the bile can be assimilated with the chemical action of digestion is beyond my comprehension.

The old writers on medicine, who most assuredly paid little or no attention to chemical observation, and, if possible, less to the phenomena of disease, supposed that in the jaundice a secretion took place analogous to bile in the kidneys, the cellular membrane, and the skin; and that the bile, in fact, became a component part of the venous blood: but modern investigators clearly demonstrate, that the blood, in its passage through the liver, not being able to disengage itself from a superabundance of bile, prior to its traversing the acrian canals, deposits the feculent bile in the cellular substance of the various organs, where they are digested, and their principals either taken up by the absorbents, or consumed by perspiration: in confirmation of an hypothesis that carries conviction with it, we have the unbiassed support of Van

Swieten, Bethu, and Stoll, who, in some cteric patients, observed the bones, and even the cartilages, tinged with a yellow colour.

I conceive the state of the nervous system to be far more worthy of attention than hepatic derangement; and however the Stahlian's might exceed, on this important subject, the boundary of probable and exact science, yet, they have manifestly contributed to the illustration of the primary source of all our sensations, by directing the attention to the nervous system, and the influence that system exerts, through its proper medium the mind, over every part of organization; for all the secretions are intimate and minutely connected with this energizing power: the liver, and all the viscera, receive their power of action from the galvanic influence of the cerebral organs; and hence it follows, their action must be subservient to it: of all the organs that compose our complicated frame, that most incessantly, most perpetually, in action is the cerebral one; for, we are to carry in recollection, from this compli-

and organ all the rest of the functions
 principles of vitality, by means
 which act the
 the conveyance of
 and which is continu-
 impression made on
 conductors by foreign
 for the cerebral, in common with
 the other organs, appears to be one of
 secretion ; and I am further led to con-
 sider, that this galvanic power, is a *sui*
generis, or a power inherent in the cere-
 bral action. Perhaps we shall not deviate
 from the object of our inquiry if we at-
 tempt to investigate how far the mind
 governs the body, and whether the mo-
 tions and actions of the body arise from
 the mind as the immediate source and
 origin of motion. It appears to me that
 the mind only governs the voluntary ac-
 tions of the body, the involuntary ones
 being solely subservient to animal me-
 chanism : the immediate source and origin
 of animal motion evidently resides in the
 first principles of animal vitality, over
 which the mind can have no controul, be-
 cause the animal principle first existed ;

hence I contend the vital and sentient principle are two distinct actions, but which, under certain circumstances, have peculiar reference to each other; it therefore follows, the motions of the heart, arteries, and respiration, obey the vital, not the sentient power: yet I have no hesitation in laying it down, as *principium commune*, that the vital and sentient principle each co-operate for the mutual advantage of the animal economy; but I am led to conceive that this sentient principle, during the expansion that takes place in the growth of the animal body, has no inferior share in organization, and predisposes the voluntary actions of the animal, to changes by no means analogous to the first acts of vitality; in fact, the sentient principle is the offspring of matter and vitality and the moment vitality calls this matter into action, is the period that gives birth to the sentient faculty, and this faculty is a power solely inherent in vitality. This action, in its common acceptation, is well defined under the general term of animal life, which merely implies a capability of action. Borellus.

Malpighius, Ruysch, and Leuwenhoeck, all concur in the support of this nervous influence ; but what was its distinct character, or what propelled it into action, they neither attempted to explain on physical or mechanical principles. Certain it is, that this galvanizing vitality is the cause of sensation and muscular motion ; and it is within the circle of probability, that after having performed this distinctive action, its elementary principle is absorbed by the lymphatics, and uniting with the blood, assists the energy and fluidity of its circulation : thus the nervous structure, while it answers as a conductor of this galvanic energy, contributes to promote, in its varied and beautiful ramifications, the principal digestions, and to vivify all the fluids, consonant to the certain and uniform action of vitality ; for these nerves are spread over every part of the body, for the purpose of supporting animal and vital agency, evidently being endowed with properties peculiar to themselves for the maintenance of their specific and varied functions.

Generally speaking, indigestion appears

to me to arise from the nervous energy of the brain being disturbed the gastro-hepatic organ being surcharged with feculent matter, deranges the systems immediately connected with it, and which, by its galvanic influence, produces a morbid excitability of the cerebral organ: and, however fallacious analogy, in many instances, may be, yet, I think, in the present instance, analogy illustrates my theory; for in cases of concussion and compression of the brain, as well as in apoplexy, the stomach always sympathizes with the cerebral organ; indeed, the situation of the stomach evinces its consequence to animal life; on its right side is placed the liver, on its left the spleen, the pancreas under it, the diaphragm above it, before it is placed the peritoneum, and behind the aorta; therefore, when this organ is deranged, the whole system of systems participates, more or less, in its affections: the stomach itself is a membranous bag, receiving the masticated food from the œsophagus, it is divided, when empty, into an anterior and posterior surface, a great and little curva-

ture, the cardia, or superior opening, and the pylorus, or inferior opening; from the inner surface of the stomach the gastric juice proceeds, on which its functions depend.

The persons principally subject to diseases of this character, are those who, from the nature of their civil life, are compelled to inactive or sedentary pursuits, those labouring under any disease of the intellectual faculties, and again, those who are in a state of debility, or exhausted by habitual excesses.

The actual character of many of the diseases of the stomach still remain surrounded by much ambiguity: for, in many of these diseases, we are uncertain what part of the stomach is actually affected, and in what manner their remote cause operates: indeed, in all diseases where the nervous system is deranged, our sources of information are very limited, it requires no common investigation to trace the effect from the cause; by sympathy, the lungs, the pleura, jejunum, and ilium may all be affected, for sympathy is that preponderating and universal action by

which the whole range of systems is governed.

• I have said, indigestion appears to arise from the nervous energy of the brain being disturbed, which either produces sub or super-irritation of these organs; the result of this irritation is heart-burn, colic, hypochondriasis, scurvy, consumption, dropsy, and various diseases that, immediately or remotely, assume the chronic type. Among the remote, or less distinctive causes, are, grief and anxiety, too flatulent and farinaceous a diet; violent and excessive evacuations, the abuse of bleeding, purges, and emetics; preceding disorders, especially the affections of the liver, as well as hysterical complaints. The exciting cause may be a weakened and irregular peristaltic action of the stomach from a loss of its tone, which may affect the power of the menstruum secreted by the stomach, on which the digestion and solution of our aliment depends; a vitiated or deficient secretion of the gastric juice, to this cause may be referred chronic diseases individuals predisposed to apoplexy are

subject to the symptoms of indigestion, from a compression of the vessels of the brain, arising either from venous or arterial plenitude, but generally the former.

The symptoms usually present during indigestion are anxiety and distention, with flatulent eructations of carbonic gas, a very disagreeable sense of weight and oppression after eating, especially when the stomach has been long empty: the body either costive or very open, the appetite extremely irregular, in some instances I have been led to infer the mere action of respiration has forced down the food into the stomach; great anxiety, giddiness, palpitation of the heart, very restless nights, flushings of the face, bitter taste in the mouth, throwing up of half-digested food; pain in the stomach, arising from extensive spasm of that organ, and many symptoms in common with hypochondriacal diseases.

In this country the frequency of indigestion is to be referred to our inactive modes of life, errors of diet, and the very intemperate use of spirituous liquors.

Experience tells us, that the food best adapted to our nature consists of a due proportion of animal and vegetable matter: animal food produces great muscular energy in all the systems; and, by introducing a larger portion of oily matter, produces a greater secretion of oil in the adipose membranes; while, on the contrary, a vegetable one renders organization less favourable to such a development, but unquestionably induces more docile and fascinating manners, with uncommon strength of intellect.

The sedentary life calls for a greater portion of vegetable than animal substance; for a tendency to acidity usually prevails in the stomach of those drawn from the pursuits of active life; the quantity of food to be taken at each meal is better regulated by the appetite than any rule that can be suggested: respecting the quality of the food, we should choose that which appears best to assimilate with the gastric organ, which assumes in each individual a peculiar character: the difference between a weak and strong constitution is, that one can assimilate

food of difficult digestion into healthy chyle, while the other is oppressed and variously affected by it, and which is not owing to the nature or quantity of the food, but to the relaxed state of the digestive organs.

Dr. Cheyne laid it down as a *principium commune*, that a vegetable diet is the most proper regimen for valetudinarians, and the most effectual mode of removing chronical diseases ; but I contend this doctrine is completely hostile to fact and experience ; for the weak and relaxed state, disease leaves the stomach, as well as the whole system, in, renders this doctrine somewhat ambiguous : a complete vegetable diet may occasionally be resorted to with great advantage, but during a period the stomach performs its functions with torpidity, a vegetable diet is sure to produce dyspeptic symptoms.

If a vegetable diet is adopted in early life, while the energy of the system is in its acme, I then consider it both safe and rational ; but if it is pursued at a period when the constitution is broken down by disease and intemperance, I then do not

hesitate to say such a mode of living is as unwise as it is injurious: for the withdrawing of an accustomed stimuli, at the declension of energy and vigor, is to solicit disease, by the production of a general debility through the whole system; for though the stimulus of fermented or spirituous liquor is not required in the active vigor of youth, and, when constantly resorted to, assuredly injures the general system, yet, in the more advanced stages of life, and where habit has rendered it necessary, I do contend, the sudden abandonment of any stimuli is pregnant with danger.

Respecting fluids, those generally in use are malt liquors, spirits, and wine: malt liquor is a heavy drink, and the too frequent use of it generates visceral obstructions. We are to recollect, that our object in taking diluents is to facilitate the solution of our food, and promote digestion; water is unequivocally the best menstruum for this purpose. for it not only dissolves the food, but extracts its chyle; it also strengthens the stomach without stimulating the system; there-

fore, whatever good effects are produced are permanent; it disengages, rather than corrects, a disposition to flatulency, and in the solution of food is certainly a better assistant than an anodyne glutinous malt liquor: hence the quality of water forms an object of the first importance, Hippocrates paid great attention to this point; Dr. Lambe has given this subject a very elaborate and ingenious investigation; indeed, it must be confessed, water is a very powerful agent, and that which appears best to assimilate with the constitution is the distilled, for whatever foreign substances may be contained in it, though they cannot be destroyed by filtration, may be effectually so by distillation.

Dr. Cleghorn observes that, in Minorca, indigestion, swelled abdominal viscera, obstructions of the liver and spleen were produced by the badness of the water. The salutary efficacy of water depends upon its softness and purity, both of which are considerably improved by distillation—alum also improves its purity.

Spirituous liquors produce, by a slow but certain action, obstructions in all the principal organs, and peculiarly affects the nervous system, and disorganize the intellectual functions. Dr. Letsome and Willan on this subject have copiously pointed out the evils arising from them. The best beverage is wine, the temperate use of which stimulates all the organs to a healthy discharge of their individual functions.

In attempting the cure of this class of disease, three several indications present themselves to our attention ; the removal of remote causes, and of those symptoms which tend to support the disease, and lastly, we have to endeavour to restore the tone of the stomach : for these disorders are not only obstinate, but very liable, on the least irregularity, to return.

In cases where there is a great secretion in the stomach of viscid mucus; the tongue foul, great distention after eating, nausea, or vomiting ; I would commence my cure by gentle emetics, repeated as circumstances indicate ; for in all dis-

eases of the stomach violent evacuations are to be avoided; the body should also be kept open by the gentlest purgatives; from bitters and chalybeates much advantage will be derived, as well as from lime water.

In cases where acidity is the prevailing symptom, rhubarb and the absorbent earths must be resorted to.

Many individuals labouring under a costive state of the body are perpetually taking purgative medicine; nothing can be more injurious than this practice, for by their continued use the peristaltic action of the intestines becomes so languid, as to require not only their perpetual use, but an increased quantity.

The following formula I have subjoined as best suited for general practice.

EMETIC DRAUGHT.

R Pulv. Ipecach. gr. xx.
 Aq. Cinnamon. unc. 1℥ M. fiat haust. vespere
 sumend.

APERIENT PILL.

- R Antim. tartarizat. gr. iij.
 Hydrargy. submuriat. gr. x. . . .
 Pulv. rhei. dr. j. . . .
 Sy. simp. q. s. simul } contunde, ut fiant pilule
 duodecim, sumat tres pro re nata.

TONIC PILLS.

- R Ext. colocynth. composit. scrup. ij.
 Carbon. ferri, dr. 1. . . .
 Ol. essent. caryoph. aromat. Gtt. iv. . . .
 Sy. zinziber. q. s. ut fiat massa pilularis di-
 vidatur in pilulas viginti : quarum sumantur tres
 bis de die.

TONIC MIXTURE.

- R Radic. calomb. incis.
 Cascaril. contus. . . .
 Cort. aurant. recent. āā dr. ij macera . . .
 Aq. ferventis. unc. duodecim.
 Per hora, et cola.
- R Infusi colati. unc. decim . . .
 Tinct. zinzib. dr. ij . M. fiat mistura cujus capiat
 cochlearia tria bis de die.

℞ Hydrarg. submuriat. gr. ℥

Pulv. rhei. gr. v.

Sapo alb. gr. ij

Sy. simp. q. s. fiat mass. divid. pilul. ij
sumand. alterna mane.

℞ Infus. cascarill. s 3 xj

Magnes. sulphat. 3j fiat haust. sumend alter
nocte.

SCROFULA.

IF we were to enter minutely into all the varied ramifications of this subject in regard to the cause, symptoms, and treatment of it, volume after volume would be consumed in its delineation ; suffice for my investigation that we confine the history to its leading character, and our treatment to its general symptoms. In the annals of medicine we are presented with no disease that has more powerfully drawn the popular attention than this, or whose origin, action, and cure, have been so variously and mysteriously accounted for ; strongly illustrating the action and influence of that sympathy that exists between the body and mind, and corroborates an hypothesis I have been at no small labour to establish, viz. that there

are diseases dependant in a great measure on atmospheric action, and that their effect is not to be referred to wild or imaginary sensibility, for whatever state of atmosphere may produce them, or whatever state of mind may assist their developement, or what organs are immediately or remotely affected, I contend the distress of the patient is real and keen while they last, and a change of organisation actually takes place, equally hostile to the mind and to the constitution.

In regard to the cause of scrofula, we are not able to define it ; for the most part we are led to conceive it does depend on a certain mode of irritation inherent in the constitution and which requires a stronger mode of irritation to destroy :—Spring is the season of its developement—summer accelerates its action, heals its ulcerations in order to return the following spring : it often assumes a constitutional form. The muscles of these individuals are for the most lax ; the limbs soft and flabby ; the head large ; the skin white and soft ; the intellect vivid, and their perception far beyond their age, accompanied with a

very high degree of nervous sensibility, an uncommon and unconquerable aversion to action and the usual amusements of childhood: the lips thick; the eyes and the nose perpetually discharge a viscid matter; scabby tetters surround the body; the glands of the neck enlarge, &c. &c.; these tumours, sometimes terminate in the collection and discharge of a viscous matter, and at other times are transformed into hard immovable substances, that perhaps never disappear: during this long stage it exhibits different alterations, for in this, as well as all chronic affections, the result is general, as well as local debility; the glands of the interior organs are also affected, such as the mesentery, the pancreas, &c.; the bronchial swell becomes hard and ulcerate, for when the disease assumes the period of activity, a new mode of general action is produced in the system, and which brings with it a particular alteration in the organ affected: after traversing successively through all its stages, by an ulterior action it passes into its cancerous character, for cancer appears to me to be only different from

scrofula in the virulence of its symptoms and the period of life it attacks the patient. The glands are the usual seat of scrofula, and all parts where the lymphatic system predominates; for, according to Cullen, this disease depends upon a peculiar constitution of the lymphatic system, for it not unfrequently occurs that the external tumours disappear, and a visceral affection is the result, the progress of whose action will be influenced by the sensibility of the viscus affected. The external symptoms of this disease are by no means dangerous when confined to the neck; but when they affect the knee or elbow, they not only become troublesome, but very dangerous, and are frequently followed by internal affections either of the bronchial or abdominal systems; in all these cases the patient is very considerably reduced, and, like all chronic affections, either remain incurable, or at an indefinite period disappear. Amid the versatility of its symptoms, one singular character that marks its anomalous progress, is the facility with which it changes from one place to another, from the

thoracic to the abdominal viscera, and from the exterior to the interior organs, and this appears to be the result of a peculiar mode of the nervous action.

We rarely find this disease earlier than the second, or later than the twentieth year : at one time it commences its deleterious action, about the period of dentition ; at another at that of puberty, menstruation, pregnancy, parturition, lactation ; or at the termination of some acute or chronic disease, as the rickets in children, or where the habit has not been freed completely from their dregs ; for at all these critical periods, most important changes are taking place in all and every part of organization, particularly in the lymphatic system. In infants its effects are first observable in the neck and the head. In the dissection of several children, who died under a scrofulous diathesis, I principally found its seat in the mesenteric glands, for the structure and position of these glands are favourable to its development. One of these children, the parents of whom with the most

anxious solicitude had consulted the most eminent of the profession, was supposed to labour under a liver complaint, for it had no external marks of scrofula; indeed, they went so far as to assert its total destruction. On the opening of the chest, the lungs did not collapse, and throughout their whole substance there were several abscesses; the pericardium abounded with a very unusual quantity of serum; in fact, the whole viscera of the abdomen was more or less diseased, the mesenteric glands were not only in a state of suppuration, but were considerably enlarged; the intestines were much inflamed, and beneath their peritoneal covering they were surrounded by scrofulous matter: but what peculiarly arrested the attention, was the sound state of the liver; for amid this mighty ravage of disease, this was the only viscus not contaminated by the scrofulous action.

As the individual arrives at puberty, it fixes its seat in the delicate organs of the lungs. In the dissection of these subjects we find all the viscera have assumed the ap-

pearance of a worn-out system, a premature old age, no positive organic derangement been perceptible.

Of all diseases it is one of the most hereditary, and in several of the low countries where the air is thick and foggy, and the food salt, crude, and viscid, it is endemic; for when a disposition to scrofula exists, it requires but a very slight cause to call it into action, and it is no less the fact than singular, that the disease may be produced in the neck by a strain, blow, bruise, or compression of the joints of the knee, ankle, or elbow, and the same effect no doubt may be excited in the mammary and axillary glands, the use of tight stays, by retarding the general circulation of the fluids, may predispose these glands to take upon them the scrofulous action, and which, on the cessation of menstruation, may acquire the more serious and malignant character of scirrhus.

As to the appearance of scrofulous tumour, this is so extremely fallacious, as well as variable, both in regard to the size and progress of its development, that no certain opinion can be formed, respecting

the scrofulous diathesis; the most certain character of the disease, in its indolent stage, is the patient's constitution; in the major part of these tedious cases, the tumour is round, hard, movable and indolent: on the appearance of this tumour it is necessary to examine the state of the mesentery, which, in infancy, is always voluminous; for where a disposition in the habit exists towards this disease, the mesentery glands are usually first affected, but the most positive assumption of scrofula is best taken from the constitution of the parents; for Cullen says, it deserves to be remarked, that in a family of many children, when one of the parents has been affected with scrofula and the other not, (as it is usual for some of the children to be in constitution pretty exactly like one parent, and others of them like the other,) it commonly happens that those children who most resemble the scrofulous parent become affected with scrofula, while those resembling the other parent entirely escape: we are also to take into consideration the age and constitution of the individual, as well as the seat and activity of

the tumour. When the joints become affected, the tumours are frequently followed by abscesses, which not only erode the ligaments and cartilages, but also the adjoining bones, with a caries of singular character; in the more marked and aggravated cases where each season produces a regular succession of these tumours and ulcerations, the whole fluids of the body become affected by the scrofulous acrimony, and lay the foundation for various chronic diseases. In regard to the cure of this disease, we are yet in the possession of no certain remedies, it will suffice for me to speak generally on the treatment of a disease whose symptoms are so fallacious, and in which we are rarely consulted, before it has become constitutional. During the early period of it the exhibition of small doses of calomel and emetic tartar, with exercise proportionate to the age and strength of the individual, best answers our intention of cure. Perhaps the following formula is well adapted for general purposes.:

R Hydrarg. submuriat. gr. x.ij.
 Antim. tartar. gr. ij.
 Sacch. puriss. 3j. M. fiat pulv. divid. chart.
 xij. cap. 1 alter. mane in q. s.

When the disease becomes more advanced, tonic medicine, varied agreeable to existing circumstances, is to be resorted to, but in all cases I would recommend, in the first instance, the use of a gentle emetic, for it has been premised, the mesenteric glands are first affected, the functions of the stomach must be deranged, the use of an emetic is strongly indicated.

R Carbon. ferri, 3j.
 Sacch. alb. puriss. 3ij. M. fiat, pulv. divid.
 chart. xij. cujus sumat 1 ter de die in q. s.

Respecting the treatment of scrofulous tumours the first object is to avoid their suppuration; this I would attempt by the application of a plaster composed of the equal parts of soap and mercurial plaster: for these tumours should never be opened by art except when seated upon any of the large joints, because matter allowed to accumulate within the capsular

ligament of the joint might injure the bone ; also rubbing the affected joint night and morning with water saturated with common salt, and after each friction re-apply the plaster. Though the materia medica affords no remedy capable of curing scrofula, yet I think a long continued course of medicine may modulate the scrofula diathesis, and if the vigor of the constitution is good, may finally weary out the disease. Respecting diet, it may be necessary to state, that the overfeeding of children very much assists the habit to take on this disease, and when taken on supports its action : therefore it becomes an object of the first importance in this, as well as all diseases, not to over-feed children: the food best adapted to the individual must be regulated agreeable to existing circumstances, for no general principle can be pointed out. I should frequently recommend lime water, with milk, to be given : as well as distilled water.

CUTANEOUS DISEASES.

OF all the diseases that occur in practice, the most perplexing are chronic eruptions of the skin, the cause of which is obscure and cannot be traced. These are, at present, too often met with; they appear to arise from a depraved state of the whole fluids. These affections are the production of a specific irritation or a peculiar disposition of the fluid system, which sooner or later gives rise to a series of very obscure phenomena, singular in their character, and very tedious in their cure; and, like all chronic diseases, terminate spontaneously: and though rarely dangerous, or contagious, are yet not only unpleasant, but frequently assume a very tedious course.

The immediate cause of these eruptions

seem to arise from a general morbid disposition of all the tumours either as to their quality or quantity, and which is supported by a specific irritation, and this action may be produced by a variety of more remote or exciting causes, such as the particular constitution of the individual, the unusual, variable, and inconstant state of the weather, the errors of diet, the long continued use of mercury, hard drinking, interrupted perspiration, &c., &c. ; which may surcharge the habit with feculent matter.

These furfuraceous scales are often accompanied with immense lassitude, head-ache, and anxiety, with itching, pricking, and shooting pains; especially towards evening and morning: on breaking they discharge a liquid of the concrete form, and produce a scale unpleasing to the eye; the skin is long in recovering its usual tone, colour, and general appearance; their progress is generally very slow and obstinate: all these lingering anomalous eruptions, by perpetually teasing them, may terminate in actual ulceration, and which generally assumes the

erysipelatous character, and if not checked may destroy the whole skin within their reach, exhibiting a spectacle too hideous to describe. An intimate connection is often established between these eruptions and a variety of internal affections, for it is certain, by perspiration more than any other secretion, the recrementitious parts of the aliment are disposed of; and that this co-operation between the skin and stomach is supported by the means of that consent of parts so perceptible and necessary in all the functions of the animal economy; and hence it is universally admitted, that all cutaneous eruptions are ever to be regarded as a salutary effort of nature, and we must rather assist than diminish this action, however opposite it may be to the feelings of our patients.

The indication of cure in these eruptions is to co-operate, not control, the efforts of nature. We must first direct our attention to the state of the bowels, and in the choice of our purgatives we must select those substances which more freely determine their action to the cutaneous vessels; for it is a point of the first import-

ance to increase, by every possible means, the general perspiration, which will not only assist the expulsion of seculent matter, but also purify the whole animal fluids. Among a variety of remedies the following claim attention.

R Hydrarg. submuriat. gr. lx.
 Gambog. gr. xx.
 Antimon. tartarisat. gr. xv.
 Opii puris. gr. xij.
 Gum camph. gr. xx.
 Ext. gentian. moll. gr. lx. fiat massula divid.
 pilul. lx. cujus sumat j. ter de die. ex cyanthum
 amplum sequent decoct.

R Mezerion. radic. cortic. dr. ij
 Sarsaparill. rad dr. ij.
 Aq. frigid. puriss. ℥ij.
 Decoque ad libram unam. sub fine decoctionis
 adde rad. glycyrrhiz. incis. unc. j. et cola.

These ought to be continued for some length of time, and should the eruptions be tedious the following solution would tend to allay the irritation.

R Tinct. ferri. muriat. dr. ij.
 Aq. distill. uuc. iv. M. fiat solutio sæpe utend.

R Ungt. hydrarg. fort.
 ———— Sulf. (acet. aa dr. j.
 Ungt. compl. Dr. Nij. M. fiat ungt. App. part.
 effect.

FINIS.

NEW DISEASES.

THE
RABIES' PIRATICA,

ITS
HISTORY, SYMPTOMS, & CURE;

ALSO,
THE FUROR HIPPOCRATICUS,

OR
GRÆCO-MANIA,

WITH ITS TREATMENT.

BY BRYAN CROWTHER.

" If wild ambition in *your* bosoms reign, * * *
" Alas! *you* boast your sober sense in vain;
" In these poor bedlamites *yourself* survey;
" *Yourselves* less innocently mad than they."

LONDON:

PRINTED FOR THE AUTHOR,
BY G. HAYDEN, 4, BRIDGES STREET, COVENT GARDEN.

1810.

ADVERTISEMENT.

THE Reader is respectfully informed, that the following sheets are not the result of any personal vanity, or assumption of peculiar knowledge; but are chiefly intended to draw the attention of enlightened practitioners to a subject of importance, and to excite them to submit their researches and opinions to the public.

The nature and manner of the attack on Mr. CROWTHER, as they admit of no justification, will doubtless operate with liberal minds as an apology for the style which he has adopted in his defence.

The pamphlet has been printed at his own expence, for the furtherance of the purpose which he has above stated, and for circulation among gentlemen of professional reputation and literary acquirements.

Rabies Piratica.

DR. JOHNSON is certainly erroneous in supposing that this complaint is particularly prevalent among Printers.

It is not so confined, as will be particularly illustrated by the following epistolary correspondence.

It might proceed from a peculiar deficiency of sensibility and feeling towards an extensive class of his Majesty's subjects, called Authors, that the learned Doctor did not enumerate these gentlemen as especially exposed to this complaint.

CORRESPONDENCE.

Boswell Court, July 23, 1810.

SIR,

You having chosen, in your edition of your uncle's book, to state, " This author (Mr. Bryan Crowther) further indulges his satisfaction, and enhances his compliments to Mr. Ford, by taking a plate or two from his book, for the benefit and embellishment of his own giving thus, though tacitly, an unsuspecting testimony that he held the work in high estimation :

I shall take leave to remark, that, so far from taking a plate or two from his book, I should have been ashamed even to have borrowed from them ; so execrably executed are they, that they are a disgrace to the work. I shall bring the artist to Mr. Callow, the bookseller, and I shall see whether he will

dare to give publicity to a charge so unfounded. I trust the above statement will lead you, from a sense of candour and truth, to correct your error.

I am, Sir,

Your obedient Servant,

BRYAN CROWTHER.

To Thomas Copeland, Esq.

Golden Square.

To this letter Mr. Copeland thought proper to transmit me the following reply :

Golden Square, July, 1810.

Mr. Copeland presents compliments to Mr. Crowther, and has been favoured with his note. Mr. Copeland has nothing to say in defence of the execution of the plates in the first edition of Mr. Ford's book, but it must be evident that the two principal plates, illustrative of the different stages of the hip-disease, are materially the same in Mr. Ford's and Mr. Crowther's books ; and as the former happen-

ed to be published many years before the ~~latter~~, the one must be considered as a copy of the other. Mr. Copeland begs to observe, that in this view they were considered by the late Mr. Ford, as they will be, he thinks, by every one who compares them: and it was a feeling and expression of regret from Mr. Ford, that his plates should be re-published, which drew from Mr. Copeland the remark which is the subject of Mr. Crowther's note. Mr. Copeland does not see how an artist, or any other person, can alter the fact as it stands, of which the public is now the judge; and Mr. Copeland must therefore decline any further discussion.

If Mr. Copeland cannot, the public will see, that no one is more likely to know whether the drawings Mr. Campbell made, were taken from cases I introduced him to, or whether he copied them from Mr. Ford's book. When I mentioned to Mr. Campbell, who made the drawings, the charge preferred against me by J. C. and Mr. Copeland, he said; "I am

content that the public should so decide, but I feel justly indignant that it should be supposed I copied from plates so vile, and anatomically incorrect." To such as imagine that no other practitioners ever saw the different varieties of the hip-disease but Mr. Ford, I may stand suspected; but a reference to the plates in the one book and the other will suffice, in this instance, to shew that Mr. Campbell, the artist I employed, has no pretensions whatever to the character of an accurate copyist, except from nature. I assure the reader that some professional friends saw the patients from which the drawings were taken, and will give (if required) their testimony that I speak the truth*.

I take this opportunity of correcting an error in judgment, when I passed commendation on the first of Mr. Ford's plates.

If, in defence of the execution of the plates in the first edition of Mr. Ford's book, Mr. Copeland has nothing to say, what then has

* J.C. says, p. 255, "copied faithfully, in Mr. Crowther's third plate." Does Mr. Copeland know Mr. Langstaff, surgeon, of Fore-street? Let him enquire of that gentleman as one evidence:

he to say in favor of those given in his own edition of that work? After all the botching bestowed upon his uncle's plates, they are rendered less illustrative, and convey a more inaccurate idea of disease than they did before they were touched up, to "benefit and embellish" Mr. Copeland's edition.

Mr. T. C. has nothing to offer in defence of the engravings in his own book. The explanation of the plates he has given is precisely the same as his uncle's, which, of course, was very proper in him, as they are the same plates. But what does he mean? After giving an account of plate 1, he proceeds to inform us respecting plate 2, and states, "*this and the preceding figures were taken by Mr. Bernie.*" I hope none have been suppressed, particularly the one which might represent *the hip which stood out before, and falls in behind.* If the plate be destroyed, where is the preparation? for it must be unique, and worthy of the first place in the Hunterian museum, *and at any price.*

Now, what Mr. Copeland and his friend of Lisson Grove think, or what Mr. Ford did

think, no way interests me ; but I shall always feel anxious to merit the approbation of the public, to whose judgment I am invited to appeal, and to whose decision I shall most respectfully submit.

THE FUROR HIPPOCRATICUS,

OR GRÆCO-MANIA;

WITH ITS

HISTORY AND TREATMENT.

PREVIOUSLY to making any remarks upon the translation of the aphorisms given in Mr. Copeland's book, I thank the *firm* of Messrs. J. C. and T. C. for their kind hint, that "when I studied to write, *fortiter in re*, I needed not to have deviated from the good old rule of writing *suaviter in modo*." This is very good, and it is very easy to observe how ready most persons are to give good advice; yet, some how or other, how few there are disposed to follow it themselves. By way of apology, I will confess the truth, and explain how my mind became irritated.

J. C. in Mr. Ford's edition, referred the reader, in his appendix, for authorities which, so far from supporting him in his conclusions, appear-

ed to me to render him no service, and flatly contradict his assertion of "*that thus you see, there is not a single word of any importance in the original text, which I have warped, violated, or translated at my own peril; they are rendered on good authorities.*" J.C.'s authorities, he imagined, would pass current with our profession; and had he not intruded himself upon us by his novel aphorisms, for the purpose of instructing us in the nature of a complaint which he knows nothing about, his time should never have been obtruded upon by me. J. C. would have it supposed that I applied for literary assistance to persons less eminent than himself. Were I to disclose the names of some of the gentlemen who assisted me in the exposition of the aphorisms alluded to, every one, I believe, except J.C. would acknowledge I could not have referred to fitter persons for the purpose; and in having so done, I performed a duty I owed to the public, and one which the importance of the subject demanded. With this aid I shall enter upon a trial of skill with him, and let the public determine on which side the question "*the weak advocate*" has been employed.

Does J. C. mean to infer, *that until Mr.*

Crowther shall have "happily illustrated the sense, and verified the truth of the former translations" of these aphorisms, which, to the profession, have not to this moment been perfectly intelligible, he should be silent ?

I cannot be silent while I see them mutilated, misrepresented, and converted into absolute nonsense. Whose cause am I advocating?—That of "the celebrated physician, *who reckoned himself the seventeenth in lineal descent from Æsculapius, and who lived about four hundred years before the Christian æra, under the name of Hippocrates;*" besides, "a sagacious, and indefatigable observer," and one "who wrote (as J. C. has given his opinion) *with the philosophical precision of a scholar, and the elegant felicity of a gentleman* *."

I will now proceed seriously and fairly to consider the subject of complaint with which I have charged J. C. and bring my defence to a conclusion.

* Vide Mr. Copeland's edition, p. 66; J. C.'s appendix of the same work, pp. 284 and 285.

Hippocratis Aphorismi, Sect. 5.

Aph. 59. "In such as labour long under the hip-disease, the hip-bone stands out before, there is a falling in behind, in them matter supervenes," with Mr. Copeland, and is "*supervening*" with J. C.

Aph 60. "In such as labour longer under the disease of the hip, the hip-bone stands out, the limb wastes, and they become cripples, if they be not cauterized."

I should have been happy, in as much as the profession were agreed on the propriety of artificial discharges, and acknowledge the benefit to be derived from their use in effecting a cure of the hip-disease, if Mr. Ford had proceeded no farther, respecting the aphorisms, than noticing the advantages of the treatment suggested by Hippocrates.

Had the late Mr. Ford thus far ventured, and no further, the passage was clear, safe, and *fordable*, and it would have given me pleasure to have had nothing else to have animad-

verted upon but the excellence of his book. I wish he had obtained more assistance, or that it had suggested to him, that by a vain, ostentatious display of possessing superior literary acquirements beyond others of his profession, *he might have gotten out of his depth.*

The translation which the triumvirate have given to the public, *as the true and fair meaning* of these disputed aphorisms, I shall attempt to prove to be incorrect; for it appears to me, that no disease of the nature which they mean to represent, ever did or can happen. In fact, I do consider their construction as the offspring of a visionary malady engendered in their own brain. But enough of Mr. Ford—he is no more!

“The hip stands out before.” As the Greek is the same, why not “stand out before” in both aphorisms? Before what, in common sense? They do not mean the bone stands out in the front of the thigh; if that were to happen, a complete dislocation must take place. How came they to cram in the word “before”, in the second edition, as the propriety of adopting it never occurred to them in the first? “It was to answer a purpose as

contemptible as it will appear ridiculous *.” I will explain, by adverting to one of J. C.’s authorities, how far he is capable of misrepresentation, and let the reader judge.

In their *never-to-be-forgotten* appendix, page 271, second edition, J. C. says, “that there is certainly a ‘falling in of the hip behind,’ is neither denied nor disputed. Mr. Crowther, in his book, page 278, admits that ‘the falling in of the *nates*, or hip behind, is one of the characteristics of the hip-disease, properly represented in Mr. Ford’s first engraving,’ and well copied in Mr. Crowther’s third plate.”

In my book, to which he has referred, he has wilfully misrepresented the passage. It is thus—“The elongation of the thigh, the extenuation of the limb, and the falling in of the nates behind, are characteristically represented in Mr. Ford’s first engraving, in which it is proper to observe that there is no mark of suppuration.”

* Messrs. J. C. and T. Copeland, as gentlemen true to the text, will furnish us with the Geek for the word *before*. Is it to be found in J. C.’s “*con amore*” edition of the aphorisms of Hippocrates?

J.C. says, in all the former translations, with no essential difference, there is nothing said of the falling in of the hip *behind*, either in this or in the following supplemental aphorism. Who is surprised, that what an author never did write or say, can never appear? .

I was astonished at J. C.'s account of what, he said, I had stated; I found, however, by a reference to my book, that I had not made myself quite such an ignoramus, although the word *behind* was superfluous in a surgical sense. J.C. prides himself upon the propriety of this part of his translation; but I should like to know, when he considers the relative situation of his own posteriors, if he thinks the *nates* likely to fall in, in any other place than *behind*, if they fall in at all?

One absurdity begets another, and that is the construction he has put upon *nates*, which he has rendered hip. The appearance noted by the artist is from a wasting of the glutæi muscles*; they, together with the extenuation and elongation of the limb, are characteristic

* Glutæus, γλῦταίος, from γλῦτος, the buttocks. Turton's Medical Glossary.

effects of one species of the hip-disease. The wasting of the limb causes the appearance of that part called the great trochanter of the thigh-bone seemingly to stand out; this appearance is deceptive, and the apparent prominence is not before nor behind, but external and lateral, which is the proper situation of the thigh-bone.

This species of affection of the hip-joint, which is attended with seemingly a lengthened state of limb, arises from a cause explained in my book; but this cannot be the complaint alluded to by Hippocrates in his aphorisms, for, as the elongation is very visible, surely, such a conspicuous symptom could not have been by him entirely overlooked.

Independent of the interpolation of the word hip, why did J. C. omit the observation, that "there was no mark of suppuration," but, because it would have condemned his translation.

*Consideration of ἀλιν, retro, behind, and
J. C.'s authorities.*

To thus, rendering this word with great submission, there is, I think, every objection;

nor does it appear to me that J. C. is at all supported by the examples he has adduced.

Πάλιν is used, he says, for *retro*, *behind*; admitted by our joint auxiliary, the *Lexicon*; but how that meaning can be made subservient to the explanation of the subsequent authorities J. C. produces, I am utterly at a loss to conceive.

But as to his illustrious friend, Bellerephontes, I think J. C. had better have left him *behind* *.

——— Τοι δ' ἔτι πάλιν δικάονδε νιόντο,
Πάντας γὰρ κατέπεφνεν ἀμύμων Βελλεροφόντης.

*It vero nequaquam retro domum iverunt,
Omnes enim interfecit eximius Bellerephontes.*

But they by no means returned home again,
For the illustrious Bellerephontes slew them all.

H. A. 380.

Χωόμενος δ' ὁ γέρον πάλιν ὤχιτο.

Iratus itaq; senex retro abivit.

CLARKE.

Therefore the old man, enraged, went back again.

H. A. 214.

——— πάλιν ἄγεν ὄξεις ὄγκοι.

——— *retro curvati sunt acuti hami.*

CLARKE.

The sharp hooks were bent backward..

H. E. 257.

Τέτω δ' ὁ πάλιν αὐτίς ἀποίσειν ὠκίς ἵπποι.

Hos autem non iterum retro auferent veloces equi. CLARKE.

The swift horses shall not carry them back again.

J. C. remarks, "thus Hippocrates distinctly points out both *what falls in*, and where the *falling in is*, and clearly intimates a peculiar early period of the disease, viz. when *this 'falling in' of the nates, or hip behind,*' becomes first observable or evident."

This gentleman says, "the meaning of an author can only be ascertained by what he himself says on the subject." J.C. is fond of my expressions. I ask him where did he meet with all this? It exists no where but in his head. This falling in behind, as he calls it, is nothing more nor less than a diminished condition of the muscles of the buttocks; they are reduced in size, have lost their plumpness, therefore appear flat; and this is his mighty discovery; and, with unparalleled assurance, quotes me as authority for the hip falling in behind!!

As the aphorism does not point out any thing of the kind; how came he by all this information?

The falling in of the *nates* behind was Mr. Campbell's expression at the time he was taking the drawing not from Mr. Ford's book, as I have been charged with, but the

patient's *nates*. I incautiously adopted the expression, and inadvertently gave it a place in my book.

J. C. finding the *nates* arranged by Mr. Campbell, was determined that they should not be cramped for room; to effect this purpose, a very natural idea occurred to him, which was, that the "*joint stands out before.*"

"*In such as labour long under the hip-disease, the joint stands out before, the hip falls in behind, in them purulent matter is supervening.*"

It appears that Hippocrates— No, no, it is J. C.'s *modesty*—it was himself who "intimated a peculiar early period of the disease, viz. when the falling in of the *nates*, or the hip behind, becomes first observable or evident." Thus much as to time. If he had asked me to have arranged the aphorism for him, it would have been transposed, *as the hip falls in behind, the joint stands out before.*

Mr. Copeland's Aphorism.

In such as labour long under the hip-disease, *the hip-bone stands out before*, there is *a falling in behind* *; in them matter supervenes."

J.C. and T.C. disagreed when they got half way through the *passage*, when the old gentleman managed his business in a twinkling, as appears by the arrangement I made, but the young gentleman, not being determined, nodded an *intelligitur*, and went behind.

Mr. Copeland has stept from his surgery, to commit—what?—why, murder against grammar and common sense. He has converted the words *καὶ πάλιν ἐμπίπτει* into a substantive, &c. as "*there is a falling in*;" but upon any other authority than *Licentia, Aphoristica*, is best known to himself.

If he should become an editor of a Greek grammar, I hope he will not prove "*ungra-*

* See the engraving I am accused of having copied.

cious," as it would 'be rather bordering on "unthankfulness"; not to give the verb, which has afforded him so much assistance, precedence to the other parts of speech.

Though there is neither sense nor meaning, yet I perceive a great deal of art and design in the application of the sentence: the one refers to the *plate*, while the old gentleman has my written authority for his accuracy. I may be accused of being ungratefully choleric, when these exertions "*were made most evidently with a sincere desire of rendering it (the translation) less liable to the dislike of Mr. Crowther; and more acceptable to his learned friend*" !!!

Mucor Articulatorum.

Μύξα, *mucus*. J. E. says, page 258, "It might have fully answered his (my) purpose, and been no prejudice to his (my) argument, if Mr. Crowther had just remarked, that though I considered *suppuraciones* and *mucores* words of the same import, or very nearly so—" My choler rises at such an insult—to make a

distinction himself, and then call upon me to acknowledge they are of the same import!

Galen, allowedly the most accurate commentator on Hippocrates's aphorisms, as well as Fabricius of Aquapendens, on the same subject, write decidedly as to the condition or nature of the secretion effused within the articulation*.

Fœsius and Gorræus† maintain a similar doctrine as to the quality of the fluid effused; but yet J. C. cannot discriminate between secretions attendant upon a morbid state of a joint, and the one which is produced by the occurrence of inflammation, which can alone render the effusion of a purulent nature.

*. Sæpe in articulis humor pituitosus acervatur, quem myxam appellat (Hippocrates) a quo madefacta articulationis ligamenta, laxiora redduntur: atque ideo facile a cavitate articulus excidit, et rursus non cum difficultate incidit.

Galenus in Aphor. Hippocr. Com. 6.

HIPPOCR. Aphor. 59, § 6.—In quo aphorismo Hippocr. causam assignat læsi articuli femoris, quod excidat, et recidat; quam in pituitam rejicit mucosam; et est, ut puto ille, mucus, qui naturaliter solet contineri in articulationis cavitate, copia tamen plus a quo advenit. — HERNON. Essay on the Opera Chirurgica, c. 106, p. 643.

† Vide appendix.

I would ask J. C. whether the circumstance of there being much, little, or no inflammation, should have any influence with respect to the treatment of the disease, or the smallest tendency to effect a change with regard to the quality of the fluid?

I conceived my time would have been mispent by entering into a chemical investigation of the properties of *pus* and *mucus*.

A minor student knows, that if any inflammatory disposition in the joint prevails, what remedies are most essential to its removal, and at the same time will employ such applications as are best calculated to promote the disposal of the tumefaction by absorption. The young student would have adverted to the painful state of the joint, which, with the febrile condition of the patient, would have formed to an intelligent mind something like a criterion to ascertain whether the joint was or was not in a positive state of suppuration.

Dr. Parr, (J. C. says) mentions the difficulty of distinction between *pus* and *mucus*. This is well enough for a *chemist*, or a man

like J. C. to ascertain; while the first immersed his fingers in the secretion, to discover something as a furtherance to science, the latter grubbed in it for the luxury of filth*.

Let us examine a tumor, the contents of which are ascertained to be fluid; it is luckily absorbed. How is any man to know whether this fluid was *pus* or not, but by ascertaining the pain attending such swelling, and the effects upon the health which such a complaint would have had upon the system, had there been any inflammatory tendency.

J. C. I am afraid, will still misapprehend me. But if he really wishes to know *pus* from *mucus*, I would have him try the following experiment:—Let Mr. Copeland introduce into his nostrils a dossil of lint charged with

“The English word *muck* suggested itself as the only derivative from the Greek root, and the nearest of kin to *μύξα*; 'tis precisely the very thing in Arabia; but it was obviously not admissible here. The other various significations of *μύξα*, for various they are, deny it who will, were as little to my liking. The *humor de naribus*, “the snot of the nose,” was not suitable: the *elichinium lucernæ*, “the matter about the wick of a lamp,” would not do in this case; nor the *mbcor in testudinibus*, “snail lime,” and even the best of them, the *mucus in ostris*, “oyster juice,” was not in season.”—J. C.’s note, p. 259, Copeland’s edition.

red precipitate, and I am persuaded, that the next morning the copious efflux of purulent matter will explain *sensibly* to him the difference between the secretion of *pus* and the *humor de naribus*. This seems an excellent remedy for complaints of the head in which there is *rheum* for intellect. It is also useful for such who have *affected vision*, and *cannot see*, especially if from the above cause.

I again peremptorily deny that $\mu\upsilon\chi\alpha$, *mucor articulorum*, has various meanings ; it signifies *mucus*, and not suppuration.

J. C. would have it imagined it was a mere mistake in the medical acceptance of the words, *suppurationes* and *mucres*. No such thing. If that even had been the case, a man who presumes to instruct the profession to which he does not belong, is nevertheless accountable for his errors, and deservedly subjects himself to the penalties annexed to the commission of them.

An instance of the unpleasant consequence of improperly substituting one word for another, and the ridicule which succeeded the mistake, is well instanced in the following fact :

I shall avoid giving the name or place of abode, and thereby manifest that on some occasions I am capable of *proper politure and judicious curtailment*. A physician met an apothecary at a patient's house; and, after the doctor had written his prescription, he took from the table, in the presence of the patient, a phial of medicine, the learned gentleman had prescribed the day before, and observes to the apothecary that he did not think his drugs were of the best quality; to which the apothecary, who, by this remark, was placed in a *truly awkward situation*, after a little recovering himself, made this reply:—"They must, sir, indeed be very bad, if they are like your Latin." The doctor, *iratus itaq*, returned back again home, but not *behind*. In a few weeks from this visit was published, with his name, a collection of medical cases, written in elegant and classic Latin. He was complimented greatly on this production. The lapse only of a very short time brought to light the following circumstance: Some officious persons circulated the report that the Latin was not the doctor's, for none but an ignoramus would have substituted the word *materia* for *pus*. This mistake proved unfortunate, as it let the cat out of the

bag. It soon spread over the town that the cases were put into Latin by a dealer in crockery ware, and the doctor's literary fame expired in a *crack*.

Examination of J. C.'s Aphorism.

I shall give him every advantage by referring to that translation, which is now, by "*revisal, and a stricter adherence to the original text, rendered less liable to misrepresentation.*"

"In such as labour under the hip-disease, the joint stands out before, the hip falls in behind, in them purulent matter is supervening."

I shall bring his *nates* to an anchor, by asking what has become of that little insignificant word *και*, *et*, and?

For what purpose did J. C. omit this conjunction? Could J. C. have translated the aphorism as he has done, but by leaving out this word, and thereby depriving *εμπαρει* of its legitimate nominative case? I shall close

my evidence by asking J. C. how the same part can stand out *before*, and fall in *behind* ?

I have J. C.'s authority for this information. Fabricius said, "Hippocrates was, when he wrote his aphorisms, an old man, and in the zenith of his knowledge and skill." It is not for me to give to, or withhold from, J. C. a similar compliment, but I will submit to public opinion, whether he has proved himself a person who *cognitor aphorismos exposuit* !!

I shall take leave of Mr. Copeland, by addressing to him the following letter :—

SIR,

Your uncle, Mr. Ford, you say, "*for all his modesty*," was far from being unskilled in the original text. We have only your word for that, as his translation of the 59th aphorism, in the first edition of his book, gives a complete denial to your assertion. It appears to me that the uncle and nephew were taught at the same school, and by the same master. Am I

to presume that your uncle bequeathed to you his *modesty* by way of legacy? If so, it is very conspicuous in the following paragraph: "The translations being now made more *literal*, are rendered *less exceptionable*; most of the objections to them are no longer *applicable*, and they seem, in their *more simple and concise form*, less dissimilar to the *style and manner* of Hippocrates!!!"

I have purposely enumerated your deviations from accuracy; and really in this kind of art you exceed any I ever knew; three misrepresentations in less than six lines of your own book!! I believe your friend so beset and confused you, that you laboured under a *kind* of literary mania. Do not mistake yourself; I do not attribute your complaint to too much learning, but the incessant bewildering of J. C.

Who doubted the propriety of your uncle's referring to the doctrine of Hippocrates?—Before he held a probe in his hand, Mr. Pott had established the efficacy of issues in the hip-disease*.

* I speak of having been witness to the application of this treatment, in St. Bartholomew's Hospital, so far back as 1783.

Why could not Mr. Ford be content with the practice? Because J. C. would not let him, as he would not let you.

In having gone the lengths you have in support of your uncle's opinions, you have something like excuse, but to proceed to such an extent, to feed the vanity of a weak, silly man, as to lend your name, and thereby surrender to him your professional judgment, though it may move my pity, excites my astonishment!

I have no enmity towards you, notwithstanding the injury you intended me. But let me place you in your own eyes, as you must seem in those of other people. Your misrepresentations with respect to the aphorisms are palpable and glaring; and for whom and for what have they been made? For him who rendered your uncle (a respectable surgeon), contemptible. And for yourself what has he not done, to establish a character in every respect remote from that which is desirable, either as a surgeon or a scholar?

Notwithstanding your deluded fascination in attending to the dictates of J. C. you are, I

am informed, very respectable as a surgeon; but how far you have succeeded in rendering the translation of the aphorisms less objectionable in the second than the former edition of Mr. Ford's book, let the reader judge for himself.

I am, Sir,

With every wish for your future prosperity,

Your obedient, humble Servant,

BRYAN CROWTHER.

To Thomas Copeland, Esq.

Golden Square.

The compliment that has been paid me by J. C. is of the most flattering nature, and one, which no individual, in any situation of life, ever before received. What can a reader of this address think of the person who is the object of it, inasmuch as his very blunders are brought forward as authorities in favor of a translation! Nay, so flattering and complimentary has his conduct been towards me, that he has even altered the *original text* in com-

pliance with my *mistake*. How particular must be my obligations to this gentleman, when he says, "that there is not a single word in the original text of any importance which I have knowingly warped, violated, or translated *meo periculo*." Sure enough, but he cheated the devil, and imposed upon his reader, by not adding the word *omitted*. There is a salvo for a *jesuitical conscience!!!*

It appears, pages 66, 67, by MS, dated March 11, 1810, that the late Mr. Ford, "with a view of shortening *disagreeable disputations*," arrived at this conclusion, "that so long as *καυθῶσιν* cauterized, cannot be got rid of as spurious, or an interpolation, it cannot possibly be denied, that Hippocrates was *perfectly sensible* of the great use of issues made by caustic, towards effecting the cure of the diseased hip-joint, and treated this complaint in a mode similar to what is now practised."

If such were Mr. Ford's idea of the subject, why should he give a translation of the aphorisms at all? Might he not have been content with the curative mode suggested by "*that celebrated physician?*"

How happened it *και παλιν εμπίπτει*, be translated in the body of the book, *there is a falling in behind*, but because it should correspond with *the hip falls in behind* in the appendix; for if they had englished the conjunction *και*, *and*, then both of their translations would have proved erroneous.

I shall close this subject by a reference to the note, pages 254 and 255; “*Ἰσχίον* signifies the hip-joint, and, in that sense, it is the nominative to the verb *εξίσταται*. *Ἰσχίον* signifies the hip, and, in that sense, with the addition of *παλιν*, in the sense of *retro*, “behind;” it is likewise the nominative to the verb *εμπίπτει*, and denotes the falling in of the *nates*, or hip behind, one of the characteristics of the disease, properly represented in Mr. Ford’s engraving, and copied faithfully in Mr. Crowther’s third plate.”

What misrepresentation!—the *nates* are the buttocks; and, separately viewed, how can they be considered the hip?—The hip is a whole, composed of several parts.

This renowned expositor of Hippocrates

has said, "that ἰσχυιον is the nominative to ἐξίσταται; it is likewise the nominative to ἐμωλώσει." To be sure it is—but where, in the original text, can be found the Greek expressive of the word *nates*, or hip?

In the original text, ἰσχυιον is a nominative to the two verbs, to which it is connected by the conjunction *καί*, *et*, *and*, and therefore cannot be allowed two meanings.

I shall english this part of the aphorism by J. C.'s note. "*The hip stands out before, and falls in behind.*" Now, instead of a joint, let us suppose an army: *Exercitus extat et retro incidit*, "the army stands out before, and falls in behind." Here is generalship!—was ever any thing like it before effected? Were there a vacancy for Commander in Chief, I think J. C.'s abilities entitle him to the appointment; for never, till now, could it be supposed, a line of military capable of performing two such opposite evolutions by one and the same movement.

If government would hearken to my suggestion, they would appoint J. C. Commander in Chief of His Majesty's forces on the Continent, to meet Bonaparte's army;

he would be more than a match for that general, as the same number of men, at the same instant, would stand out *before* to oppose him, and their falling in *'behind'*, would form a *corps de reserve*.

In page 64, I am ~~accused~~ of animadverting upon the translation given in the former edition of Mr. Ford's book, "with unbecoming warmth, and a degree of asperity that the occasion did not call for."

I am of opinion, that when a man has written to mislead, no animadversion can be too strong; and I so much approve of what I then said, as applicable to J.C. in my appendix, that I shall re-print it, as well as the note inserted at the end of my book, with the aphorisms in their original text, wishing to put the literary reader in full possession of what is necessary for his due consideration of their translation, without subjecting him to the expence of purchasing either Mr. Ford's book or my own.

"Let the reader keep to the original text of Hippocrates himself, in a consistent persuasion, that the meaning of an author can only be ascertained by what he himself says on the subject."

J. C. acknowledges that he is bordering on four-score : he might, I think, have employed his time to some useful and honourable purpose. If he makes a respectable figure, it must be consoling to him ; on the other hand, if he sees before his eyes a glaring instance of having placed himself *in a truly ridiculous situation*, let him make the only atonement in his power, by an acknowledgment of his errors, and a confession of the sincere contrition he feels, for having grossly misled the nephew of that gentleman whom he stiles a “ sincere friend,” and to whom he affects to be a “ real well-wisher.”

BRYAN CROWTHER.

August 3, 1810.

APPENDIX. .

MR. FORD's publication on the hip-disease, is a well written performance ; and the student will derive considerable practical information from its perusal. It was with regret I noticed in it a translation of the fifty-ninth and sixtieth aphorisms of the sixth section of Hippocrates ; because it appeared to me, that neither would the disease bear Mr. Ford out in his interpretation, nor could he be justified by the original text in translating these aphorisms in the manner he has done.

Mr. Ford says, in the sixty-third page of his book, " I think I may venture to affirm that the doctrine of Hippocrates, if the aphorisms alluded to are literally translated, is very clear and comprehensible to those who are conversant with the disease, and may amount to neither more or less than what follows.

“ Aph. 59.—In the progress of the hip-disease, the standing out of the hip-bone, or its external projection, and the falling in of the *nates* behind are prognostics of suppuration.

Aph. 60.—When, in this complaint, the hip-bone stands out, the limb wastes, and the patient must necessarily halt, unless he be cauterized.”

I shall first insist that the appearances described in the fifty-ninth aphorism form neither an indication nor a prognostic of suppuration.

By suppuration may be understood the formation or production of abscess: I have never found it necessary in my own practice to advert to the figure of the limb, in order to ascertain the existence of matter; for the sensations of patients, their state of health, and the fluctuation perceived in the part, have rendered me acquainted with, and themselves sensibly alive to, the nature of their situation.

It is obvious that the latter aphorism applies to a condition from which the party might be relieved, and in which lameness may be avoided; now I am inclined to believe that

no such case of diseased hip, as that described by Mr. Ford in his translation of the fifty-ninth aphorism, has ever occurred without the patient being irrefrievably maimed. I mean that in those cases of hip-affecton, which have advanced to the period of suppuration, the patients have been irrecoverably crippled; consequently lameness could not have been prevented by the application of the cautery, as intimated and directed by Hippocrates in his sixtieth aphorism.

Experience has taught me, that cases, in the incipient stage of the complaint, may recover, previous to the occurrence of suppuration, and thus that lameness may be altogether obviated. I could also adduce, on this point, the testimony of other surgeons.

The elongation of the thigh, the extenuation of the limb, and the falling in of the *nates* behind, are characteristically represented in Mr. Ford's first engraving, in which it is proper to observe, that there is no mark of suppuration.

The second plate is also a very just exemplification of the appearance induced by a carious state of the bones. The shortening of

the limb, and the outward marks of repeated suppurations are well depicted : and, if there were any correctness in Mr. Ford's translation of this aphorism, I will predict, that the patient, whose case furnished the drawing, will carry with him through life the prognostics of suppuration : as the projection of the hip, and falling in of the *nates* behind, will remain with him to the latest period of his existence.

These appearances are, in fact, consequences of the disease, and never can be regarded as prognostics of suppuration ; and, although it be true, that the complaint may have arrived at the height, which is intimated in Mr. Ford's translation of the 59th aphorism, and abscesses have occurred ; yet these collections of matter do not take place, on account of the projection of the hip-bone, and the falling in of the *nates behind*, but are the ordinary effects of the disorder, with all its ill consequences to health, and its destructive influence on the affected limb.

Should a knowledge of the disease give me any advantage over Mr. Ford's friend, and teach me, that the interpretation insisted upon by J. C. of Lisson Grove, cannot be supported

by the actual occurrences of the complaint, I shall have done my duty, as a practitioner of surgery, in rescuing Hippocrates from the imputation of inaccurate prediction, or of deficient information on this subject.

If I speak confidently in favor of the former translations, which have, until the publication of Mr. Ford's book, been received and considered, with no essential difference, as expressing the true meaning of these very aphorisms, I am justified by finding, that Galen, and every commentator on the works of Hippocrates, are in support of my convictions in favor of the old translators.

In the first of these aphorisms, J. C. of Lisson Grove, renders the words *καὶ παλιν ὑποπίπτει*, *et retrorsum incidit, and falls in behind*. In support of this, he tells us, that the word *παλιν* signifies *retro, retrorsum, and contra, behind*, as it does *rursum* and *iterum, again*; but, from any of the passages quoted by him, we cannot see in what manner the word, though it may be rendered *retro*, can, with any degree of propriety, be translated by the English term *behind*; nor, do we think that this adverb corresponds with the Latin *retrorsum*, which he uses. But J. C. commits a

greater error in his translation of the word $\mu\upsilon\zeta\alpha\iota$, which he calls *suppurationes*. We apprehend, that it will not be deemed too bold an assertion, when we maintain that the word can have no such meaning: $\mu\upsilon\zeta\alpha\iota$ implies strictly *muci* or *mucor*; this signification is warranted both by the derivation of the word, and its acceptation by the best commentators.

Foesius, in the 254th page of that part of his work, entitled, *Œconomia Hippocratis Alphabeti serie distincta*, defines $\mu\upsilon\zeta\alpha$ to be “*humor ille pituitosus et lentus qui naturaliter in articulorum acetabulis continetur* ;” he adds, moreover, the following emphatical words, by way of illustration, “*mucus aut mucor, qui sum purus sit, et secundum naturam se habeat, bene valentes et facile inobiles articulos reddit : ac si contra naturam succreverit et redundarit, nimio humore articulorum ligamenta imbibens et lubricans, eorum prolapsiones facit. Sic. aph. 59, lib. vi. $\mu\upsilon\zeta\alpha\iota$ et mucor*es supervenientes femoris caput lœve et lubricum reddentes, in causa sunt ut facile sua cavitate excidat.”

$\mu\upsilon\zeta\alpha$, as appears in Goræus, signifies that “*mucor qui est in articulis, in spatiis internis*

continetur" and not suppuration*. I will subjoin the words of Gorraeus, $\mu\upsilon\chi\alpha\iota$, *mucor, mucus dicitur ab Hippocrat. humor pituitosus, lentus et albus. Is in partibus exanguibus, ossibus et cartilaginibus colligi consuevit; cum ad eam imbecilitatem pervenerint ut alimentum suum nequeant concoquere.*

After these proofs of the clear and plain meaning of the word $\mu\upsilon\chi\alpha\iota$, we are rather surprised at the pertinacity with which J. C. insists upon the propriety of rendering it *suppurationes*; wishing, however, to bring this matter to a conclusion, we beg leave to quote a passage from the appendix to Mr. Ford's observations on the disease of the hip-joint. In page 250, we find J. C. expresses himself thus: "to the rendering the word $\mu\upsilon\chi\alpha\iota$, which I have translated *suppurationes*, although it has various significations, there cannot, I believe, be any solid objection: in vindication of the sense in which I have taken it, I appeal to Gorraeus, who expounds it in the same meaning with regard to this very aphorism."

In answer to the above, we deny that the

* Vide Gorraei Opera sub voce.

word has various significations ; it signifies *muci*, and not *suppurationes*, consequently there is every objection to its being translated suppurations.

If J. C. should feel himself awkwardly situated, he is rendered so by his friend, Mr. Ford, probably not acquainting him that *mucus* and *pūs* are distinct things. In justice to J. C. however, it ought to be stated, that a gentleman, pre-eminently distinguished by his profound knowledge of the Greek language, would, when I stated the question, have committed the same error, but for my explanations, conceiving that *mucus* or *pūs* might be used indifferently ; from this circumstance it may be surely inferred, that, however eminent a man may be for Greek literature, he is not therefore sufficiently qualified to judge of medical subjects, unless assisted by other advantages.

It is really a matter of astonishment, that an appeal should have been made to the works of Gorræus ; in which I positively assert that there will not be found any thing which could, by the most forced construction, justify us in assigning any such meaning to the word $\mu\upsilon\chi\alpha$

as the matter produced by suppuration, or *pus*. I am at a loss to conceive, unless J. C. acknowledges that he is unacquainted with the distinction which medical men have established between *pus* and *mucus*, what apology he can offer for such an unwarranted assertion as, "thus you see that there is not a single word of any importance which I have warped, violated, or translated at my own peril."

Having thus, I trust, shewn the impropriety of adopting either Mr. Ford's, or his friend's translation from the authorities which they themselves have produced, I shall take the liberty of referring the reader to any of the old commentators on the works of Hippocrates, for they all, without any material difference, agree as to the proper interpretation of these two aphorisms.

Mr. Ford judiciously requested a learned friend, whose impartiality is the more to be respected, as he is not of the medical profession, to furnish him with a new translation of these aphorisms, that coincides with his own opinions. I also have propounded the matter to a divine, whose character for Greek erudition, were I at liberty to disclose his

name, every English scholar would revere; and, as I find that his idea of the sense of Hippocrates differs from that of J. C. and agrees more nearly with the commonly received translations, I shall lay his opinion, and the authorities by which he supports it, before the public; and leave those, who are interested in the controversy, to form their own judgment.

Hipp. Aph. VI. Sect. 59, 60.

APH. 59. Ὁκείσοισιν ὑπο ἰσχυιάδος ἐνοχλημένοις
 χρόνης ἐξιστάται το ἰσχυόν, καὶ πάλιν ἐμπύπτει, τριτίοισι
 μυξαι ἐπιγίνονται.

APH. 60. Ὁκείσοισιν ὑπο ἰσχυιάδος ἐνοχλημένοις
 χρόνης το ἰσχυόν ἐξιστάται, τετίοισι τήκναι τὸ σκέλος,
 καὶ καλεῖσθαι ἢ καὶ καυθῶσιν.

NOTE.

“Quævis à diuturno coxendicis morbo vexatis coxa excidit et rursus incidit, his mucos innascitur.” Hipp. Aph. Glasgusæ, ann. 1748. Jânæ ab Almeloeben. — “Quibus longo coxendicium dolore conflictatis femoris, summum coxæ excidit rursumque recidit, iis mucosores innascuntur.” Hipp. Aph. Vorstii. Ludg. Batav. ann. ciorccxviii. — “Quibus ab ischiade diuturno vexatis ischium è proprio loco excidit atque rursus incidit, iis mucos innascuntur.” Translatio Charterii. — “Quibus longo coxendicium dolore conflictatis, femoris summum coxæ excidit rursumque recidit, iis mucosa ibidem pituita colligitur.” Translatio Hollerii. — Rejecting these translations, J. C. proposes his own in the following words: “Morbo coxæ diuturno laborantibus, femur extat, et retrorsum incidit; his superveniunt suppuræ rationes.” “In persons afflicted with a lingering disease of the hip-joint, the hip stands out, and falls in behind; in them suppurations follow.” The learned author observes, that Hippocrates uses the word *ἐξέρχεται* laxly; that *ἐκπίπτει* signifies *extare*, to project or stand out, as *excidere*, to fall out; and that *ἐκ* as certainly signifies *extra, retrorsum*, and *contra*, behind and on the other side, as it does *rursus* and *iterum*, again.

According to my opinion, the sense of Hippocrates may be more accurately expressed in the following words: “In

“ whatsoever persons afflicted with a disease of the hip-joint
 “ of long continuance, the hip-joint stands out (from its usual
 “ situation) and falls back again into it; in them, mucous, or
 “ mucous secretions, are attendant symptoms.” For my in-
 terpretation of *ισχίον* I will quote Foesius: “ Interdum *ισχίον*
 “ *esse αὐτῷ τὸ ἄρθρον* sic enim *ισχίον* *ἐκπίπτει* dicitur, lib. de
 “ art. [pag. 638. 12. H. 825. 6.] *ἀντὶ τοῦ κατ’ ἰσχίον ἄρθρου*,
 “ ut illic scribit Gal. Et. Aph. 59 & 60. lib. 6. *τὸ ἰσχίον ἐξίσταται*
 “ *καὶ πάλιν ἐμπέσκει* coxa cavitate suâ excidit, rursusque reci-
 “ dit, hoc est, *τὸ κατ’ ἰσχίον ἄρθρον* coxendicis articulus, ut illic
 “ scribit Gal. Sic enim de femoris capite et summo intelligitur
 “ quod coxæ inseritur, et excidere rursusque illabi potest quæ
 “ modo etiam libr. de art. *ὁμοῦ ἄρθρου* elabi dicitur humeri ar-
 “ tculus *ἀντὶ τοῦ κατ’ ὅμοῦ ἄρθρου*, pro articulo qui est ad hume-
 “ rum. “ *Ἀρθρον*, namque eo aphorismo totam articulationem
 “ significat quæ complectitur et caput femoris rotundum ac
 “ læve et acetabulum et vinculum: idque totum *ισχίον* ibi
 “ dicitur.”

Because the English word “lingering” conveys the idea of
pain and debility, as well as duration, I would render *χρόνως* of
long continuance. I admit that I see that *εἰς αὐτὴν* more accu-
 rately represents the Greek word *ἐξίσταται* than *excidit*. It ex-
 presses the appearance of the diseased joint, and the effect of
 the disease upon it.

In regard to *πάλιν*, the passages which J. C. quotes from
 Homer, and those to which he refers in other writers, shew
 that it means *retro*; and I would observe, that *rursus* in the
 sense of *retroversus*, sometimes means more than the mere
 repetition of an act as expressed by *iterum*. But as in the
 case stated by Hippocrates, the joint returns into its former
 situation, I have endeavoured to avoid all ambiguity by trans-
 lating *πάλιν* *back again*. I do not agree with J. C. in render-
 ing the word *πάλιν* *behind*. Nor do I see how the English word

corresponds to the Latin word *retorsum*, which he has himself employed. But further, though it were granted that *πίσω* sometimes means *behind* or *on the other side*, yet, in the passage we are now considering, I should not assign to it such a signification. For *ἐπιστρέφειν*, though it well expresses the falling in of the bone to its proper situation, is very ill calculated to express the sinking in of the part of the hip opposite to that which stands out.——*Μύξα*, as appears from Gorræus, signifies that “*mucor, qui est in articulis, aut in spatiis internis continetur,*” and not *suppuration*. I will subjoin the words of Gorræus: “*Μύξα mucor, mucus dicitur ab Hippocrat. humor pituitosus, lentus, et albus. Is in partibus exanguibus, ossibus, et cartilaginibus colligi consuevit, cum ad eam imbecillitatem pervenerint ut alimentum suum nequeant conco-
“ quere.*”

That *μύξα* does not signify *suppuration*; that it *does* signify *mucous secretion*, and that the excess of secretion is injurious to the joints, will appear plainly and fully from the words of Hippocrates:—“*Μύξα παύειν ἐς τὴ φύσιν καὶ ὅταν αὐτὰ καθαρή ᾖ, ὁ γυαίνουσι τὰ ἄρθρα, καὶ διὰ τὸ το διακίνηται ἐν, ὡς ὀλισθαίνοντα πρὸς ἑαυτὰ· πῶς δὲ καὶ ὀδύνη γίνεται, ὅταν ἀπὸ τῆς σαρκὸς ὑγρὰς ᾖ ῥυῖ πονηράση τὸ πρῶτον μὴ πηγνύται τὸ ἄρθρον· οὐ γὰρ ὀλισθηρὴ ἢ ἰγρότης ἢ ἐπιρρηκνύα ἀπὸ τῆς σαρκὸς ἔπειτα ὥς πολλὰ λυγὴ νημομένη, καὶ ὡς ἀρομένη τῆς σαρκὸς αἰετὶ ξηραίνεται· καὶ ὥς πολλὰ ἰῦσα, καὶ οὐ χωρεῖντος τοῦ ἄρθρου ἐκχρεῖ, κακῶς πεπηκνύα, μετατρέφει τὰ νεῦρα, οἷσι τὸ ἄρθρον συνδίδεται, καὶ αἵματα ποικίλα καὶ διαλυμένα, καὶ δια τὸ το χαλοὶ γίνονται· καὶ ἄρα μὴ τὸ το μᾶλλον γίνεται, μᾶλλον, ὅταν δὲ ἴσسون, ἴσسون. Mucus omnibus à naturâ inest, et cum purus fuerit, bene valent articuli, ideoque facile mo-
“ ventur, cum sint inter se lubrici. Oboritur autem labor et dolor, ubi vexaverit quæ à carne fluit humiditas. Imprimis quidem rigidus fit articulus, neque enim lubrica est quæ ex
“ carne effluxit humiditas. Deindè sua copia valdè dispersa,*

“ neque à carne irrigata, semper resiccat; cùmque eam
 “ ob multitudinem articulus capere non possit, effluit, malè
 “ que concreascens, nervos quibus articulus connectitur, at-
 “ tollit, elaxat, et dissolvit; eamque ob causam vel majus,
 “ vel minus, claudi fiunt.” Hipp. p. 411.

As to the concluding word in the aphorism of Hippocrates, I conceive that neither *innasci* nor *colligi*, which occur in some of the translations, convey the meaning of ἐπιγίγασθαι. I should object also to the English word *follow*, proposed by J. C., because it seems to denote mere succession. The Latin word *supervenire*, which J. C. has employed, appears to me less objectionable. But the real and appropriate sense of the Greek word will be best collected from the two passages I shall quote from Gorræus and Foesius: “Ἐπιγίγνμα· idem quod συμπτωμα, quanquam aliqui ita distinxerint ut symptoma esset quicquid præter naturam animali accidit: ἐπιγίγνμα verò non omne sed quod solos morbos necessario sequitur.”

“ Hoc vocabulum purum est in usu apud Græcos, ait Gal. lib. de different. symptom. Ab illo factum ἐπιγίγασθαι quod apud medicos de symptomatibus dicitur quæ ipsius morbi augescentis ratione accidere solent, ait Gal. Aph. 35. lib. 6. Μεταπίπτειν verò, cùm, soluto prioræ affectu, alter novus incidit, ut notat Gal. in Aph. 11. l. 7. Gorræus.” — “Ἐπιγίγασθαι est supervenire, succedere; et de iis dicitur quæ in morbis accidunt, proprièque de his quæ morbi ratione et auctæ passionis nomine succedunt. Gal. Com. ad Aph. 35. lib. 6. ἐπιγίγασθαι τοῖς πάθεσιν ἵπτεσθαι πάθη τε καὶ συμπτώματα τοῖς παλαιαῖς ἰντροῖς ἴθως ἐστὶ λίσσιν ὅσα κατὰ τὸν αὐτὸν πάθεσιν λόγον αἰξανόμενα συμβαίνειν εἶναι. — Morbos et symptomata ‘morbis succedere’ veteres medici dicere consueverunt quæ ipsius morbi augescentis ratione accidere solent. Hinc ἐπιγίγασθαι dicitur quæ morbis necessario, eorumque incrementum

"ratione succedunt, utque ex possibili sequuntur non
 "symptomata simpliciter."

I doubt whether the English language has any single word which definitely and completely expresses the meaning of *inymodas* as used by Hippocrates, and therefore, with the advice of a learned person, I have said "are attendant symptoms." But I wish the medical and the critical reader to observe that *inymodas* implies not merely the concomitant, but necessary and aggravating circumstances of a disease.

FINIS.

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N^o XVIII.

Art. I. *A Treatise on some Practical Points relating to the Diseases of the Eye.* By the late John Cunningham Saunders, Demonstrator of Anatomy at St. Thomas's Hospital, Founder and Surgeon of the London Infirmary for curing Diseases of the Eye. To which is added, a short Account of the Author's Life, and his Method of curing the Congenital Cataract. By his Friend and Colleague, J. R. Larre, M. D. The whole illustrated by coloured Engravings. London: Longman and Co. Royal 8vo. pp. 216. 1812.

THERE are but few we think, who will rise from the perusal of this publication, without strong feelings of regret for the early death of the author in the midst of inquiries carried on in a most extensive field, and directed by a discriminating and unprejudiced mind. Of Mr Saunders personally we knew nothing; but we have before us ample proofs of his having possessed a vigorous understanding, which he appears to have exerted unceasingly in advancing the knowledge and the interests of his profession, to utter destruction of his health and even of his life.

The account of his life by the editor is short and simple. It appears that he was the first to propose the founding of a charitable institution for the cure of diseases of the eye; and that he took an active part in effecting its establishment. Its utility is now, we believe, fully proved; and the example has been followed by the establishment of others on similar plans in different parts of the kingdom. Whatever advantages therefore the public or the profession may eventually derive from such institutions, and we think it certain that many

will accrue to both; are to be attributed in a great measure to Mr. Saunders.

There is another point which we feel called upon to notice, although it may be said to affect the character, more than the writings of our author; and we do it from a wish to check that jealous spirit which is working to lessen in our estimation one, who unfortunately lived not to enjoy the meed of well earned honour and reputation; and whose memory should not be robbed of that distinction to which it is justly entitled. The pride which brooks not a rival, and the envy which unwillingly allows of merit in another, often work under the guise of that honest and wholesome suspicion, which views with distrust any thing like concealment.* We fear that we cannot attribute to the latter motive alone all the sneers that have been thrown out with respect to a supposed backwardness in Mr. Saunders, in publishing the results of his inquiries.

We have ever considered Mr. Ware and Mr. Gibson as highly honourable men. Rich in possessions justly their own, we thought them above coveting those of their neighbour. We were therefore both surprised and grieved at the tone in which they speak of Mr. Saunders in some recent publications. The censure is uncalled for, and it is without use. It benefits not science; nor can it be felt by him against whom it is directed. There is to us something ungenerous in such an attack on the memory of an individual, which even if at all deserved, was at least equally so whilst he was living to answer it. We consider it therefore as no less cruel than it is unjust. Mr. Saunders was a man of integrity and simplicity of character; he enjoyed the esteem and confidence of the most distinguished of his profession; and in the anxious pursuit of a praiseworthy object, he descended not to the practice of any disingenuous art. It is a matter of additional regret, that Mr. Gibson has chosen not his own publication on cataract, but the pages of a widely circulated journal to send abroad such unqualified censure.

Mr. Ware not only directly accuses Mr. Saunders of improper concealment of his practice, but insinuates that the editor of his works has delayed this publication from the same motives. Now Mr. Ware must have known that at the time he published this charge, the infirmary for diseases of the eye was as open to the profession as any other public charity, and that it was attended by numerous pupils. No secret was at that time made of Mr. Saunders's operation. It has been repeatedly

performed before numbers, its principles explained, and its merits openly discussed. The mode therefore has been "openly developed," although the publication of this work has been delayed from causes of which we are ignorant, but most certainly not from a wish for concealment.

It should be recollected also by those who attribute to Mr. Saunders the desire of withholding knowledge which he acquired through a public charity, that the operation for cataract was with him a matter, not of speculation but of rational experiment. The subject did not press; and when new facts were daily accumulating, all tending to illustrate the points under examination, it would have been folly to have generalized before a sufficient number were collected to give the stamp of real value to the conclusions that might be drawn from them; or to have published as imperfect what patience for a little longer would have made complete. How eagerly he laboured is painfully shown us in the following passage from the account of his life. "In the course of this year (1809, the fifth year from the establishment of the Infirmary) his inquiries on the congenital cataract were nearly concluded, and after the anatomical lectures had closed, he commenced the manuscript of his intended publication. He wrote the Essay on Inflammation of the Conjunctiva in Infants, and on the Cure of the Inversion of the upper Eye-lid by Excision of the Tarsus. But he was not enabled even to correct what he had written. The attacks of the disease which proved fatal to him were now so frequent, the pain of his head was so excruciating, and in his intervals of ease he was so much deprived of that energy of mind which had been natural to him, that although he struggled to redeem his pledge, he was unable to accomplish his intention. But even in this state he could not be prevailed on to quit the scene of his hitherto active labours for temporary repose in the country." He died from an attack of apoplexy, in Feb. 1810, after a most painful and distressing illness. He was then about 36 years of age.

In the valuable, though imperfect remains before us, we have all the written records the author has left us of his opinions and practice. "In the first three chapters the manuscript was sufficiently complete to admit of publication in the form of distinct essays. The remainder of the volume is arranged, and in a great measure composed by the editor," "who has endeavoured to limit the service to the faithful record of what the author had written or done. The chapter on congenital cataract has been composed from the notes of the

author, and from direct observation on almost all the cases, public and private, on which he operated."

Dr. Farre, from his situation at the infirmary, and his intimate knowledge of Mr. Saunders, was the person peculiarly called on to execute this difficult task; and from the ability he has shown in the performance of it, we see much reason to rejoice that he has undertaken its performance. We respect his caution in advancing nothing as the author's opinion, but what had been the subject of repeated experiment. Yet perhaps, we should have been more gratified if he had extended his remarks on cataract to the exhibition of the author's practice in the complicated cases of this disease, in which the pupil is more or less involved. 'The case is by no means one of rare occurrence, and must frequently have presented itself at the infirmary. It often admits of partial relief; sometimes of effectual cure.

The distinguishing feature of these essays, is a nice discrimination of the various characters of disease, and a most accurate description of their effects on the different textures of the eye. Highly interesting as such pictures must always be, these appear to be introduced principally with a view to point the attention to the remedies best suited to arrest the malady, or to expedite the cure. This last observation was particularly elicited by the examination of the first, on the inflammation of the conjunctiva in infants, but it is strictly applicable to them all.

To the term purulent ophthalmia, by which it is generally known, the author has no other objection, but that it directs the attention to one symptom only, a prominent one certainly, but not always present in the early stage of the disease, to the dangers of which we may not therefore be always sufficiently alive. After describing the alterations which this inflammation produces in the structure and secretions of the conjunctiva, he proceeds to state its effects on the cornea. As the remarks are of much practical value, and possess much originality, we have given them at length. The passage exhibits a fair specimen of the author's usual manner.

"As the disease advances, the cornea becomes more or less cloudy, and by the extent of this cloudiness the degree of approaching slough is marked; for the whole of the cornea, if the whole become cloudy, will ultimately slough, and the form of the eye be totally destroyed. I do not mean to say, that in every instance in which opacity of the cornea is apparent, the cornea is about to pass into a sloughy state; on the contrary, opacity is often the

mark of a healthy action commencing around the breach of the cornea, for the purpose of restoring the part, and ought to be hailed as a happy omen. I am now speaking of a peculiar duskiness of the cornea, which begins during the progressive state of the inflammation, which is antecedent to any loss of substance, but is indeed a sure sign that such loss is about to take place. When this duskiness comes on, supposing only a portion of the cornea about to slough, the extent of it in the space of twenty-four hours becomes definite, in the same space of time it becomes elevated and apparently lessened in extent, a groove or fissure forms between it and the rest of the cornea, portions of it are carried off by the discharge and tears, or sometimes it separates altogether in one mass. I have several times washed out with a syringe these little sloughs entire. But although I am as certain of the fact as the most frequent observation can make me, I am equally sure that most commonly when this disease destroys vision, the destruction is accomplished in a more gradual manner, not by a slough of very considerable extent and through the whole depth of the cornea at once, but by a succession of sloughs. In other words, the ulcer left by the casting off of the dead piece of cornea, becomes in turn sloughy, and extends itself by a succession of sloughy surfaces, until the last lamina of the cornea sloughs, or being protuded by the pressure from within, ulcerates, and the aqueous humour escaping, the iris passes through the breach of the cornea. Already the whole surface of the eye has been in an ill-conditioned inflammation; the ulcer, or rather the surface of the cornea around the protruding iris, is indisposed to heal; so that more and more of the iris protrudes, this in turn ulcerates, and the crystalline and vitreous humours all issue at the orifice.

“This is the most violent state of the disease, and is less frequent than a more moderate but still malignant form, in which opacities or small specks are produced by the ulcerative process on some parts of the cornea.”

When the eye is lost then, it is in consequence of external disease, of sloughing, or ulceration of the cornea, and not by suppuration or the formation of matter in the eye-ball, which is, we suspect, a common opinion, especially with those who are not in the habit of examining closely the effects of diseases on the structure of the eye. We do not rank Mr. Gibson in this class, and yet, as a proof of the inaccuracy of even eminent men, he in describing this disease, talks about suppuration of the eye-ball. The truth is, that in the worst forms of this disease, as far as can be observed, neither pus, nor lymph are deposited in the anterior chamber. Even of the writers who attribute the loss of the organ to its right cause, the rupture of the cornea, there are some who appear

not to have considered it as the consequence of slough, or ulcer, but of a mechanical distension of the eye-ball.

Mr. Saunders considers this inflammation to be of an erysipelatous nature. And looking to the sloughing of the cornea, or ill conditioned ulceration, as the causes of the destruction of the eye, or of great injury to vision, he much condemns the indiscriminate use of stimulant injections. In the first stage he pursues a strict antiphlogistic plan, with the application of leeches which often produce a profuse bleeding in infants, marked by evident constitutional effects. When the activity of the disease is subdued, mild astringents may be used with advantage to restore the conjunctiva from that ill conditioned state which protracts the discharge. If employed of too much strength, they defeat this intention. By exciting a new inflammatory action, they increase in the same proportion the discharge. In the progressive stages of inflammation he objects to scarification, as it can seldom supersede the use of leeches, and indeed appears to aggravate the diseased actions. Nor can it be used with propriety even when the inflammation is on the wane, provided there be ulceration, or sloughing of the cornea.

If the ulcer of the cornea left by the separation of the slough, assumes again a sloughy appearance, Mr. S. gives the cinchona, in the form of extract to children, with marked advantage. "For the sore, before sloughy, has speedily acquired a healthy bottom, all farther spreading has ceased, and the process of granulation advanced rapidly." The sloughy surface is described as being "cindery—ragged—floculent; whereas the healing surface is besmeared with lymph, which adheres firmly to the part on which it is poured but: a halo of lymph deposited in the laminae of the cornea surrounds the ulcer, and vessels advance to it from the sclerotica, and may be seen, as it were, running into the lymph." If the ulcer spread by the ulcerative process only, another mode of treatment is adopted, which we shall notice hereafter.

While such important changes may be going on, let no one say that minute examinations of the state of the cornea are useless. They are of the greatest consequence, if it were only to prevent our hourly throwing at random stimulant injections over the eye. But when we consider, that if active means are had recourse to before any disorganization has taken place, the progress of the disease may most commonly be arrested; and that, even where slough has occurred, if it be not at once of the whole substance of the cornea, by proper

means the destruction of the eye may generally be prevented, the necessity of examination must be allowed by all. There is no case in which the cornea cannot be exposed with perfect safety, by the fingers, or by means of Pellier's elevator.

The puriform discharge is considered as of little consequence, and as not at all interfering with the healing of the ulcer. Mr. Ware speaks familiarly of its eroding, ulcerating, and rupturing the cornea; and when joined with the pressure of the swollen lids, of its causing the destruction of the eye. Mr. Saunders mentions one case in which three ulcers healed whilst the lids were kept closed, and the discharge in a great degree confined by a compress and sticking plaster. The latter means are recommended when the lids remain everted. In some cases it is necessary to remove some of the morbid growth by scissors or the knife. The ointment of the nitric oxide of mercury is employed to extinguish the last remnants of the disease.

The author's view of this disease is in many points new; and it is drawn from nature. His practice is the result of minute and careful observation. Mr. Ware's history of this disease must be allowed to be incomplete, and his directions for its treatment are far too general. The attention is kept fixed to striking symptoms only, the tumefaction of the conjunctiva and the puriform discharge, which we cannot but consider as of minor importance; in severe cases, as a veil which hides from our view the deep avages, which are carrying on behind it. Bleeding, in the early stages of so much consequence, is not sufficiently insisted on. And although we think Mr. Ware does not speak at all too highly of the effects of sulphat of copper in restraining the discharge, he has failed to point out the seasons in which it can be used with the best advantage, or the conditions under which it may be hurtful. We should not have introduced these remarks, but from a belief that the great authority of Mr. Ware on such a subject, has been often used as a cloak for carelessness in others, who have done at least as much harm as they have done good by the indiscriminate employment of stimulant injections.

The second chapter begins with a very finished and excellent history of a disease by no means uncommon, inflammation of the iris. It has been sometimes overlooked from its not being always accompanied by much superficial ophthalmia. And although noticed occasionally by a few writers, it has never we believe been distinctly considered

as an idiopathic affection. The common effects of this inflammation if unchecked, are a permanent contraction of the pupil with its diminished aperture filled with organized lymph, or an opaque and adherent capsule; if the inflammation advance beyond this stage, the adhesive, the eye is often totally destroyed by suppuration. The author advises copious bloodletting, much beyond what is recommended in the ordinary forms of ophthalmia; afterwards the continued application of leeches, with the other means usually employed in violent inflammations of the eye. As the ultimate injury to vision mostly arises from the adhesions formed between the iris and the capsule of the lens by the deposition of lymph during the active stage of the inflammation, when the pupil is much contracted, it becomes an object, and an important one of art, if the adhesive process cannot be stopped, to preserve a sufficient opening of the pupil. For this purpose Mr. Saunders has employed the extract of belladonna with very striking advantage. From its action on the iris, if the adhesions be not strong, it will overcome in a great degree the restraint they occasion; and the pupil will be only slightly irregular, and the iris still retain some degree of motion. In severer cases, though the pupillar edge is often ultimately firmly fixed to the capsule, yet a sufficient aperture has been preserved for useful vision. Mr. Saunders does not mention the form in which he applies the belladonna, but whilst there is inflammation in the conjunctiva it cannot well be placed between the lids. We should observe also, that it does not appear to have much effect upon the iris during the active stage of the inflammation. It is during the subsequent organization of the deposited lymph, when the great irritability of the iris is somewhat diminished, that its effects are most strikingly seen. If applied externally however, it may be used perhaps with advantage from the very commencement of the disease.

In the course of this essay the author touches on some other points which we cannot here discuss. One is, whether in ophthalmia there is any real advantage in taking blood from the temporal artery, in preference to any other part of the vascular system. Another is the mode in which belladonna acts in enlarging the aperture of the pupil. The author speaks with much confidence of its specific effects on the iris, and of its acting as a stimulus in exciting a strong contraction of the radiated fibres. Now without taking into account that the existence of either circular or radiated

fibres of a muscular nature is a point far from demonstrated, it appears to us that the author has by no means proved that belladonna acts by stimulation. The question however, though interesting to the physiologist, calls not for discussion here. The fact of its power in dilating the pupil is allowed by all.

The third essay is on the cure of the inversion of the upper eyelid. For the cure of this painful affection, in which, from the vicious incurvation of the tarsus in consequence of disease, the lashes are always irritating the eye, Mr. Saunders proposed an operation which at first may appear unnecessarily severe. It is mild however in comparison with the disease; and it is performed more quickly, and attended with much less subsequent pain than the one recommended by Dr. Crampton. And if it preserve the patient's sight, though it be with some disfigurement of the lids, it will be preferred to other operations which are so constantly disappointing the surgeon and his patient. In inveterate forms of this disease, neither the excision of a portion of skin, nor the severer operation of Dr. Crampton, are of any lasting benefit, however flattering may be their immediate effects. Of the latter, Mr. Saunders speaks in high terms in the earlier periods of the disease, before an unconquerable inclination towards the globe is produced. In the latter case the author recommends the extirpation of the tarsus as the only effectual relief. The operation is described as "simple, and the subsequent treatment still more simple than the operation. In a few days an union will have commenced between the section of the integuments and the conjunctiva, and the elevation of the skin will go on like that of the original eye-lid, less complete indeed, but sufficiently so to leave the pupil clear during a moderate elevation of the eye." In partial inversions it is often sufficient for the cure to dissect out a piece of skin containing the roots of the inverted lashes.

The author has never met with a case of inversion of the lower lid from a change in the figure or structure of the tarsus, though it would appear to be subject to the same diseases as the upper. Inversion is frequently produced mechanically from the situation of encysted tumors, or from a tumid fold of conjunctiva, which is often seen in ophthalmia lying in the angle between the eye-ball and the lid.

The fourth chapter is on some of the more important terminations of ophthalmia: by effusion of coagulating lymph; by suppuration; by slough; and by ulceration. It

contains matter of much novelty and value. It is founded on detached notes left by the author. But the Hunterian spirit of the arrangement is the editor's, as are also the bold and original descriptions by means of which these disjointed facts are so happily connected.

One of the most frequent terminations of inflammatory action in the eye is in a deposition of coagulating lymph. When this takes place in the interstitial substance of the cornea, opacity is produced; which however is always cleared again if the inflammation do not from its continuance, go to the length of organizing the lymph. Even in the latter case, by active means "the effusion is arrested, the red vessels contract, and disappear, the lymph which had been deposited is absorbed, and the cornea recovers its transparency." The adhesive inflammation when it invades the anterior or posterior chambers of the eye, produces an effusion of lymph which is sometimes carried to the degree of rising above the pupil, which becomes fixed, and irregular, and is often accompanied by an opacity of the capsule. If this lymph becomes organized, the eye is often irrecoverably lost. This process can only be arrested by very active treatment. We cannot forbear adding the following remarks on the adhesive stage of syphilitic inflammation. In this,

"The diseased masses of lymph are originally deposited on the coloured superficies of the iris, and secondarily the posterior surface may be inflamed: but whenever it is obliterated from this cause it is in consequence of the long continued superficial disease. The pupil is generally large at the first attack of the disease. The diagnosis between syphilitic, and simple inflammation of the iris, may be formed from the following appearances:—In the syphilitic the iris is much more thickened and puckered, the texture appears more changed, the irritation on exposure to light is less, the pain is most intense at night, red vessels are seen in the substance of the iris, a circumstance not often observed in the early stage of simple inflammation of the iris, in which patients from the severity of the pain, are sooner induced to apply for relief; the pupil is not so much contracted as in simple inflammation; and although the general appearance of disease be greater, the pain often less, the blindness is often total; to which, perhaps, may be added, that the lymph is deposited as it were in drops, and assumes a tubercular appearance."

In some very beautiful plates all the different stages of syphilitic inflammation are well displayed, from the formation of the zone of red vessels round the junction of the cornea, and sclerotica, and the deposition of lymph in tubercles

on the iris, to its termination in the disorganization of the eye. We consider them, as well as the observations by which they are explained, of much value; we know not where correct information on this subject is to be found. And on the authority of Mr. Hunter, there are not a few who deny the existence of any specific disease of the eye, occasioned by syphilis.

We must pass over the account of the termination of a higher degree of inflammation in abscess of the cornea, or in the secretion of pus from the inflamed surface of the internal parts of the eye. Nor can we notice the history contained in the next section, the termination of intense inflammation in slough of the conjunctiva, and cornea. It appears that Mr. Saunders considered the acute inflammation of the conjunctiva, commonly called purulent ophthalmia, to be identical diseases in the infant and in the adult. And he pursued nearly the same mode of treatment, active depletion at the outset, and a tonic plan in the secondary stage of the disease. The appearances which should lead us to give or to abstain from tonics, are given with a clearness of description which an attentive observer cannot mistake. With regard to the cinchona, the period proper for its use is defined with a degree of accuracy which marked his habit of minute observation, and his judgment as a pathologist.

The formation of pustules on the conjunctiva, and their termination in ulcers, is a very frequent appearance of disease in the eye; and it is here pointed out as constituting a specific character of strumous ophthalmia. If the ulcers are indisposed to heal, and are not attended by acute inflammation, they are to be stimulated by injecting on them a weak solution of the nitrate of silver. On the contrary, if there appear to be too great a deposition of lymph, bleeding and purging are advised, and all stimulant applications avoided. If with the ulcers there be pus in the anterior chamber, nothing but an active antiphlogistic treatment will probably save the eye. And if this plan be well followed up, cases apparently desperate, have terminated favourably, without any injury to vision. In cases of protrusion of the iris consequent on this species of ulceration, all that is usually necessary is to watch the effusion of lymph, and if there be any excess to bleed freely. Where the protrusion is consequent to slough, or sloughing ulcers, it is often necessary not only to give the cinchona,

but to endeavour to bring on adhesive inflammation, by the use of a solution of nitrate of silver. In other cases the inflammation continues in so acute a form, even after the production of sloughs, as to require bleeding, and repeated purges.

In thus briefly going over these highly important points, we wished to call the attention of our readers to the original manner in which the subject is treated, and the rational practice which the author pursued. Great indeed is the difference between such an enlightened view, and the miserable efforts of careless, or ignorant observers.

The fifth chapter contains descriptions of several forms of amaurosis, preceding or accompanied by other organic diseases of the eye. The author is concise in his description of amaurosis combined with cataract, and he describes only its ultimate stage. The editor, in a very valuable note, has described the appearance in an earlier stage, and has also pointed out some other forms of amaurosis, both idiopathic and symptomatic.

The principal part of the chapter is occupied by cases of amaurosis, preceding the disorganization of the eye, and the protrusion of fungi not malignant in their nature, as also of those of a malignant character. The characteristic features of the latter class are illustrated by some coloured engravings, exhibiting chiefly sections of the diseased masses. They are finely executed; and accompanied as they are by histories of the progress of the diseases, and a copious and accurate notation of the diseased appearances, constitute a very valuable addition to what has been before collected on this subject by Mr. Wardrop.

The history of the operations for cataract, abounds with accounts of multiplying and varying instruments, in hopes of obtaining more complete and unfailing success. It proves that the operations were found to be often difficult of execution, and often unsuccessful in result. In the old operation of couching, from the suddenness with which it was usually executed, success was comparatively rare: and it had been gradually falling into disrepute, when a new mode was by accident introduced, which promised complete success by an operation seemingly simple, and which, if such an expression is ever allowable in surgery, may be truly called beautiful. The extraction of the opaque body, the "*radicatus tollit*," failed not to attract attention, and for some time it appeared to be the fashion to prefer it in all cases to the depression of the

lens. No surgeon was supposed to perform the latter but from inability to execute the first. As too frequently happens however, no distinction of cases was made, and the operation of extraction was found to be in many cases impracticable, and in others, if performed, unsuccessful.

No one undertakes the operation of extracting the cataract with a fair prospect of success but in the most favourable cases of this disease; where the eye is sound, and fair, and steady, and the patient in health. In such, when the operation has been dexterously performed, we know that the proportion of failures has been small. But from the nature of the operation the risk is always considerable; and by the slightest accident the eye may be irretrievably destroyed, or lost to all purposes of useful vision. Granting however, the superiority of the operation in dexterous hands, where there is any want of dexterity on the part of the operator, the risk of failure amounts almost to a certainty. It has been with some the fashion to say that the difficulty of any mode of operating is no objection to its adoption, provided it be in itself preferable to another which may be more easy of execution. The arguments by which this opinion is supported have always appeared to us more specious than solid. Where, in the more difficult but preferable operation, success depended alone on the knowledge of the operator, we cannot allow his ignorance to be any excuse for his taking that which is easiest to himself. But where a man possessing every knowledge requisite for undertaking an operation, is liable to be foiled by circumstances not under his controul, he acts wisely in taking the smoothest, though it be the longest rout. We think therefore that the operation of extraction will not, even in the most favourable cases, be ever very generally adopted.

Where from the situation or form of the eye, or from its unsteadiness, the difficulty of making a proper section of the cornea is increased, the danger is much augmented, even in the hands of the most dexterous operator. In any other hands the most common consequence is the disfigurement and loss of the organ. To the rolling eye of those who have congenital cataract, particularly during infancy, it is therefore inapplicable. Where the patient's habit is bad, or disposed to inflammation; or where from prior disease of the eye the textures composing it are weakened, or altered—the cornea inclined to take on diseased actions—the iris unsound, or unnaturally irritable—the capsule as well as the lens opaque, and the former adhering extensively to the iris—or the vitreous humour

anywise diseased, the hazard of the operation is still far greater; it is such as to make the best operators decline many cases altogether, which by a cautious use of the needle may be very considerably or effectually relieved.

With regard to the operation of depression in cases of hard cataract, the only serious objections arise from the destructive inflammation which is sometimes excited by the pressure of the dislocated lens on parts of delicate structure, and from the amaurosis which occasionally supervenes, caused probably by pressure from the same body on the retina. To avoid these dangers it has been proposed not to depress a hard lens, but to turn it backwards only with the needle, laying it horizontally in the vitreous humour, below the level of the pupil, and in a situation where its anterior edge cannot bear on the iris. Of this practice we have seen nothing, but it stands recommended by the high authority of Richter. In the capsular cataract, depression is a matter of much difficulty, generally imperfect, often impracticable. In the soft cataract the lens yields too readily to be depressed. In the fluid, depression is manifestly impossible. Without going further therefore, we may say, that there are many conditions of cataract in which either extraction or depression is inexpedient. Particularly, neither operation is applicable to the case of congenital cataract in infants or young children: extraction, from the almost insuperable difficulties which attend its performance: depression, from the usual nature of the cataract.

It is in this last description of cases, that Mr. Saunders practised with great success an operation, the object of which is to effect a permanent and sufficient aperture in the capsular cataract, to secure the dispersion of the soft or fluid, and to bring about the solution and absorption of the hard cataract without its dislocation. As these ends are chiefly obtained by making and maintaining a proper aperture in the capsule of the lens, it is here aptly enough termed the operation of the capsule, in contradistinction to extraction, or depression. It is, we think, superior to either in the soft, fluid, or capsular cataract. It is simple, easy of execution, and if cautiously performed, eminently successful. Indeed in the congenital cataract of infancy or childhood, the operation here described may be considered as nearly reaching perfection. The only objection to it lies in the length of time often necessary to complete the cure in cases of solid cataract.

We were not prepared to find that the majority of cases of

congenital cataract were capsular, or as Mr. Gibson terms them, membranous. It appears however, from a table here given, that such is most frequently the case, the lens most probably having been absorbed, and the posterior and anterior layers of the capsule having coalesced into one membrane. In other instances there is an opacity of the lens, or its capsule, or of both; and the lens is found, either solid, soft, or fluid. Of 44 cases in the table, 10 were of solid lens, wholly, or partially opaque; eight of soft opaque lens; and four of fluid cataract. The state of the capsule in most of these was more or less opaque. The cases of thick and opaque capsule are 21: in many of them no remains of the lens; in others its remains still discoverable. The table is incomplete from the ages of the patients not being annexed to each division.

The principle on which the author proceeded in his operations on congenital cataract, is founded on the opinion that the only obstacle to the absorption of the opaque lens is the capsule; and that as the latter also is most generally opaque "the business of art is to effect a permanent aperture in the centre of this membrane. This applies to every case of congenital cataract which can occur." In the description of the operation which follows, every step is minutely marked. The directions are clear and precise, pointing out the object which the operator should have in view, and the easiest and safest means of attaining it.

A short time prior to the operation, some dissolved extract of belladonna is to be placed between the lids, or smeared in considerable quantity over the brow, and round the eye. In less than an hour, if there be no adhesions, it produces a full dilatation of the pupil, exposing to view nearly the whole of the cataract. How great an improvement this is in practice; how much it adds to the facility and safety of the operation especially in children, by keeping the iris out of the way of the needle, is abundantly evident.

In directing the point of the needle to the centre of the capsule, Mr. Saunders passed it either through the cornea, near its edge, or through the sclerotica a short way behind the iris. By the first, which is not however, a novel mode of operating, he hoped to inflict less injury, and consequently to excite less irritation than by piercing the tunics behind: this intention it fulfils. And we know of no case of simple cataract in which it should not be preferred in the first operation. We are inclined to adopt it also in subsequent operations.

This mode is said to give the operator less command over the lens. It is but little, however, that he wants, as it is not to be moved from its seat. And the great object, at least of a first operation, is more fully secured by this proceeding, as the surgeon can be sure of effecting a proper opening in the capsule if he meet with a solid lens; an attempt which is attended with some risk of displacing that body, if the needle is passed in from behind.

The needle employed is small, with a sharp point, and finely cutting edges to the angles. In every case the first object is to destroy permanently a central portion of the capsule equal in extent to the natural size of the pupil. If the capsule contains an opake lens, the point should then be sunk gently into its substance, so as in a moderate degree to open its texture, but not so as to move it in the slightest degree from its situation. We are strongly cautioned, in the case of meeting with an opake lens, against lacerating the capsule too freely, or through its whole extent, as it may occasion a partial or total dislocation of the lens, and leave it pressing against the iris. This latter circumstance may be the occasion of very destructive inflammation, not to be controlled by the most active treatment.

The diffusion of fluid cataract sometimes excites an hazardous inflammation. It is advised therefore in these cases to be contented in the first operation, with simply lacerating the centre of the capsule.

In the capsular cataract more freedom may be used than in the preceding cases, as inflammation is less to be expected. It is not always possible to break a proper opening through the thick central portion by the first operation, without detaching the capsule partially from its lateral attachments. We should therefore be contented to repeat it, rather than produce a floating pendulous membrane, which will recede from the needle, and again and again escape our attempts to remove it from the axis of vision.

The age preferred for performing the operation is two years. The number of operations necessary for the cure must necessarily vary. One is often sufficient: very rarely so many as five have been found requisite. If the surgeon is so ambitious of shining in the eyes of others as to endeavour in all cases to do all at once, he will infallibly put out the eyes of some of his unfortunate patients. And there is no case of congenital cataract in which he may not expect success, if he be steady enough to proceed with caution.

The only peculiarity in the after-treatment, is in the application of the extract of belladonna externally, to prevent the edge of the iris from contracting adhesions with the edges of the torn capsule. In some cases, however, the pupil continues unnaturally dilated for a considerable time after the operation without this application; and it does so even when none has been used antecedently.

Mr. Ware, the ablest advocate for, and one of the most dexterous and successful performers of the operation of extraction, is also become a strong advocate for the employment of the needle in the congenital cataract of infants and children, although he repeats his decided preference of the knife in the cataract of after age. He employs a needle, with a cutting edge continued on one side for about the eighth of an inch. With this he divides the opaque lens if soft, and the capsule into small portions, and endeavours to bring them forward into the anterior chamber. If the lens is solid he depresses it.

If the cataract is fluid and the capsule opaque, Mr. Gibson endeavours to effect a sufficient aperture for the admission of the rays of light; if soft, he makes a free laceration of the anterior part of the capsule. If the lens is solid, he depresses it. In infants he states that he never met with a simple membranous cataract, although he frequently found it after the age of eight or ten years, in cases of congenital disease: the operation he then advises, we have lately noticed. Mr. Gibson employs Scarpa's or Hoy's needle. With the use of the belladonna he does not appear to be acquainted.

The length to which we have already extended this article, prevents our entering on any detailed comparison of the practice of these authors. Mr. Ware and Mr. Gibson differ from Mr. Saunders in not operating through the cornea, and in depressing a solid lens. They both of them, especially Mr. Ware, use more freedom in their operations than Mr. Saunders, and still we hear of uniform success, of nothing like hazardous inflammation. Yet we know that dangerous inflammation does sometimes follow, when the operator persists too long in his endeavours, or uses his instrument too freely. We cannot therefore but repeat our caution to proceed *suspensâ manu*.

The propriety of operating on infants, and the preference due to the needle are then no longer matters of doubt. It yet remains to ascertain the best mode of proceeding in the cataract of the adult. Mr. Saunders's practice in the latter case differed but little from that recommended in congenital cata-

ract. But as from the hardness of the lens in some cases, pressure on the iris was still more likely to produce injury, he was doubly cautious in preserving a "sufficient portion of the circumference of the anterior capsule to preserve the lens in its seat. The lens itself he used tenderly, working a little at its centre with a lateral motion of the needle, which is by far the safest method of opening its texture." This caution he was taught by the severe inflammation which often followed attempts to effect a more speedy absorption of the lens, by freely breaking up its substance, and largely destroying the capsule.

"In the adult, if the texture of the lens is nearly uniform and permeable, the cure is completed in a space of from three to five months; but if the texture is firmer, and the nucleus large, the cure cannot be accomplished in less than seven months. On this account the author, who thought highly of extraction, and performed this operation with dexterity and success, was inclined to extract the lens when its texture was unusually hard. The editor cannot assert that he would ultimately have conceded thus much in favour of extraction. It was contended that such decision should result from a very long and impartial trial of both operations. With respect to the softer lens, or the capsular cataract, he was satisfied of the superiority of his operation."

There are several coloured plates added, the design of which is to illustrate the different steps of the operation on the capsule, and the various appearances of the cataracts during the progress of the cure. It is the first attempt of the kind; and in truth, under no other method of operating can the cataract be so long subjected to observation. Their utility is much increased by the copious explanations which accompany them, mostly given with a view to exhibit practical points, and to fix our attention on what had before been only generally described.

Of Mr. Saunders's talents we have already expressed an high opinion. With respect to cataract, his merits appear to us to rest not on the invention of new, or on the revival of forgotten modes of operating, but on his having clearly pointed out the object which it is of primary importance to attain, the easiest method of securing it, and the precise limits by which our endeavours should be bounded in the attempt. It was well known that the detached fragments of an opaque lens, and most commonly of an opaque capsule, would gradually disappear if placed in free contact with the aqueous humour. But the application of these facts to different con-

ditions of the disease had never been so fairly, or so fully made. Nor by any preceding writer had the subject of congenital cataract been distinctly considered, much less placed on the more perfect form to which it has been brought by Mr. Saunders. Mr. Gibson endeavours to prove that operating on infants is not so novel a practice as is generally supposed. In this he completely fails. We doubt him not, when he says that he has been in the habit of operating on infants for ten years past, though it is only very lately that he has informed the public of his practice. But we know not of another who has done the same. In this metropolis Mr. Saunders was certainly the first to lead the way in operating on infants. He created and he perfected the practice. .

ART. II. *The Morbid Anatomy of the Human Gullet, Stomach and Intestines.* By Alexander Monro, Jun. M. D. F. R. S. E. Professor of Medicine, Anatomy, and Surgery, in the University of Edinburgh. Fellow of the Royal College of Physicians, &c. &c. &c. 1811. Constable, Edinburgh. 8vo. pp. 567.

IF the science of medicine can at this day boast of greater perfection than in the days of our ancestors, it is unquestionably owing to a better acquaintance with the actual condition of disease. Our knowledge of remedies is not increased, but their adaptation to different circumstances is rendered more precise from a greater familiarity with the origin and connection of the symptoms. An accurate acquaintance with disease is only to be acquired by connecting its history with the actual condition of affected organs; and hence the absolute improvement that medicine has undergone consists principally in the addition of those facts which have been established by the inspection of disease. The importance of that branch of the science which has been termed, certainly without much etymological precision, morbid anatomy, is very great. We are enabled by it to discriminate the precise organ that is the subject of disease, and the nature and extent of the alteration which it has undergone. The prognosis often depends entirely upon a knowledge of these points, and the treatment is much influenced by the nature of the diseased action that is set up. It throws much light upon many abstruse points in physiolo-

logy, since alteration of structure is generally attended with alteration or abolition of function; and the properties of various structures are materially illustrated by the identity of their diseases.

The diseases which consist in a derangement of function, are unquestionably more numerous than those in which an alteration of structure has taken place, because the establishment of the latter is almost constantly preceded by the existence of the former. "Nervous irritation produces vascular excitement and disorder of function." Vascular excitement leads to derangement of structure, producing either a premature deposition of the original components of the organ, or new actions commencing and peculiar alterations of structure are the consequence. Thus disorder of function precedes those changes of structure, which when once established, increase and propagate themselves by a continuance of those actions which exist within them. Functional disorder rarely continues long without being followed by structural derangement; which produces its peculiar symptoms, differing in most instances from those which first indicated disease. The morbid structure then becomes the proximate cause of the symptoms, and a knowledge of it is in all instances unquestionably the most important object of pathology. How then are we to discriminate those symptoms which indicate these derangements without connecting their history with the disease and appearances; and how can we arrive at a knowledge of diseased actions without an acquaintance with the effects which they produce in peculiar organs?

With such opinions of the vast importance of morbid anatomy, our readers will readily conceive that we looked forward with no ordinary expectations to a work which should contain the accumulated observations of a series of professors, who have for near a century enjoyed the first honours and opportunities in an university, famed beyond all others for medical research. The subject which they had chosen was one of extreme interest and great fertility, since no class of organs is subjected to the influence of so many improper agents as the alimentary canal. Like all other parts of the animal body it is exposed to the effects of accidental violence, and its complicated structure, and the functions which it performs render it peculiarly liable to disease.

The aspect of this volume affords a conviction that the quantity of matter thus accumulated is very considerable, but whether the quality of it warrants its prolixity, a brief exposé

of its contents will best determine. It would however, be unreasonable to expect, that in so much writing all should be good, and as we are anxious only to exhibit an estimate of its importance, we shall subject each division of the work to a test, which will not only put our readers in possession of every thing that is new and important in the volume and thus we can assure them save much toil, but which will at once determine its value and utility. We shall therefore follow the arrangement, and examine first, those observations which may be considered as original and belonging to the Monros; and secondly, shall briefly give an opinion as to the mode in which subjects, which may be regarded as previously understood, are arranged and considered.

The organic diseases of the alimentary canal are considered under the six following divisions:—

“The first class comprehends the explanation of the morbid effects which have resulted from hurtful substances swallowed by design or accident.

“The second class, the organic affections peculiar to the coats of the alimentary canal.

“The third, the nature and distressing consequences of the displacement of a part of the alimentary canal.

“The fourth is dedicated to an explanation of the various malformations of the alimentary canal.

“The fifth to a description of the worms which occasionally infest the alimentary canal.

“And the sixth to an enumeration of the causes which lead to an enlargement of those neighbouring organs, which, by pressing upon the alimentary canal, prove a mechanical obstruction to the progress of its contents.”

The first subject that strikes our attention, is the description of alvine concretions, of which Dr. Monro has certainly given the most comprehensive account that we possess. The museum at Edinburgh probably contains the most extensive collection of these substances in existence, and it is from this source that the present observations are collected. Alvine concretions, although very common in the stomach and intestines of quadrupeds, are rarely met with in the human body, so much so, indeed that Dr. Baillie observes, “they have never come under his observation, and are to be reckoned as very uncommon.” This circumstance may probably in some degree be accounted for, by the greater quantity of fluid that is taken by man with his food than by ruminating animals, in whose alimentary canal the common species is most frequent,

and consists of fibres of aliment matted together like those of a hat. Indigestible matters taken into the stomach of quadrupeds often accumulate and form large balls, obstructing the canal and frequently producing death. Such formations rarely take place in the human subject, because his food is more digestible and his alimentary canal less complicated. But there are other varieties of concretions which seem to partake in no degree of the qualities of the aliment, and are deposited in the intestines, some consisting of an unctuous or resinous matter deposited in lamellæ, and others being regular chrySTALLIZATIONS of a subulous matter, disposed also in layers, and of a firm texture and admitting of a high polish. It is these substances, the texture of which is so compact and the veins so variegated, which are taken from the stomachs of goats, and constitute the precious bezours of oriental climates. Their structure was examined by Fourcroy and Vauquelin.* The structure of most of the concretions from the human subject examined by Dr. Monro was more or less porous and somewhat like dried sponge, and when examined by the aid of a magnifying glass, seemed to be made up of a number of very small fibres, intimately interwoven with each other, like those in a hat or in chamois leather, the interstices between the fibres being filled with earthy matter. The larger concretions are covered by a thin crust, deposited in layers, and when dry, friable and apt to crack and peel off. Internally they are composed of a yellow or brown matter, generally deposited in layers. Some extraneous body, as a fruit stone; a bit of bone, or a biliary calculus generally forms the nucleus of the concretions. Dr. Thompson, who was requested by Dr. Monro to examine these substances, found them to contain albumen, common salt, phosphate of lime, sulphate of soda, a very small quantity of sulphate of lime, and a peculiar substance, of which he gives the following account:—

“After the action of all these reagents (alcohol, potash, and muriatic acid) there remained behind a peculiar substance, having the colour and texture of the calculus. Ten grains of calculus left 1.2 grains of this matter. It was very light, and had the appearance of cork, or rather of the peculiar fungus which is used on the continent for tinder, and which the French call *amador*. It was in very short threads. This substance is tasteless, insoluble in water, alcohol, ether, potash ley, and muriatic acid. It blackens sulphuric acid, and is dissolved, being partly reduced to charcoal. In

* Vid. *Annal. du Museum*.

nitric acid it dissolves very slowly, and only when assisted by heat and hardly effervesces. When the solution is evaporated to dryness, a whitish residue remains, which has a bitterish taste and is imperfectly soluble in water. Nitric acid does not convert it into any of the vegetable acids though digested on it repeatedly.—This substance burns with a slight flame, and rather like a vegetable than an animal body. It is undoubtedly of a peculiar nature, differing from every animal and vegetable substance hitherto examined. Its insolubility in potash ley distinguishes it readily from woods. It has no resemblance to any animal substance whatever.—The calculi consist essentially of alternate layers of this peculiar substance and of phosphate of lime. Sometimes the substances are intimately mixed, instead of being in alternate layers. The albumen and brown matter seem to serve as a cement. The other substances are in a small proportion. The crust on the outside of some of the calculi consists of phosphate of lime, mixed with a brown animal matter. In a few specimens I observed chrystals of phosphate of ammonia and magnesia upon the outside crust of the calculi, but these appearances are uncommon.”

These concretions are generally lodged in the colon, the coats of which are sometimes expanded into a sac for their reception. They produce contraction of the intestines, and consequently obstruction and all the effects of stricture. Sometimes they are discharged by stool and sometimes by vomiting. Dr. Monro proposes when they are of such a magnitude that there is no hope of their being discharged by the natural outlets, they should be extracted by an operation, for the performance of which the following directions were given by his father in a letter of consultation.

“ Let an incision be made from the twelfth rib, at the distance of two inches from its point, directly downwards to the top of the os ilium: then cut slowly and with great caution, inwards and forwards, till the back of the colon is laid bare for a little way, then with one hand press on the bare part of the tumour, and with a finger of the other hand try whether you can feel the tumours within the colon. If you think you do, make a very small hole in the colon and introduce a probe, and by that means make it certain that the balls are there by touching them with it. Then with the greatest caution enlarge the incision as much as is necessary for introducing a pair of forceps, such as are used in lithotomy, for laying hold of and extracting them—After they are extracted and the fœces that may be collected there are pressed out at the wound, let the sides of the incision be pressed together, and the external part of the incision be stitched by sutures passed through the skin at the distance of a finger breadth from each other—cover the

stitches and incision with straps of adhesive plaster, and with thick pledgits spread with ceratum simplex, and with a compress and bandage so as to exclude the air."

To the grave recommendation of this most terrible operation a codicil is appended which is highly diverting.

"Before, however, recourse be had to the operation let a trial be made of the following means:

"1st. Let her take every day a quarter of an ounce of Castile soap in pills.

"2nd. Once or twice a week let her take a purgative composed of a pound. 1oz. Sugar, half an ounce, and the same of salad oil and white wine lb. 12 lbj.

"3rd. Three times a week let her get a clyster of an English quart (chopin) of water, in which an ounce of lintseed and half an ounce of Castile soap have been infused for two hours.

"4th. Let her foment the belly, and take the above clyster when she suffers much pain.

"5th. Let her diet consist of loaf-bread, milk, whey, broth, soft eggs, butter, a bit of light dressed meat; and if she takes porridge, let her melt a good deal of butter in it."

Amongst the organic diseases of the alimentary canal Dr. Monro has described a peculiar morbid growth, which he thinks has entirely escaped the attention of pathologists, and which he terms the milt-like tumour of the mucous membranes, from its resemblance to the milt of fishes. He has observed it only in mucous membranes, which become remarkably swollen and distorted, is of a soft texture, has an irregular surface, and is covered by a thin membrane upon which there is a number of vessels filled with red blood. This tumour readily mures with water, forming a turbid fluid, and is attached to the villous coat of the bowel which is considered thickened. The neighbouring lymphatic glands are converted into the same structure, and it is attended with a remarkably offensive fœtor. This disease is evidently a variety of that comprehensive genus fungus hæmatodes, agreeing in many points with Mr. Abernethy's medullary sarcoma, and is probably merely the state in which it exists in mucous membranes.

Dr. Monro confirms Mr. Home's observation, that a contraction to a greater or less degree is generally met with in the middle of the stomach, and observes that it is generally met with in stomachs of a great size, and where the distance between the opposite extremities is greater than usual. There are however, two states of this contraction, the one temporary

and vanishing when the stomach has been kept some days in water; the other permanent, and connected with organic alteration of the viscus: The first is probably the natural condition of the organ and subservient to digestion, but the latter is generally connected either with a thickening of the muscular fibres at that part, or arises from its expansion at that part, being prevented by its connection with some tumour situated posteriorly. We have lately examined a remarkable specimen of this disease in the stomach, which was caused by the adherence of a schirrous pancreas of prodigious size to the centre of that organ.

Our author remarks that although serous membranes possess but a slight degree of sensibility in their natural state, they are affected in a singular manner by the contact of air. This is not the only instance which we have met with in which he evinces a peculiar tenacity for the doctrines of his progenitors, one of whom carried his dread of the admission of air into circumscribed cavities to such an extent, as to impute death after a wound of the pericardium, not to the injury done to the parts, but to the admission of air. We are surprized that Dr. Monro's acquaintance with the properties of different structures had not convinced him how rapidly inflammation is propagated from slight injuries in serous membranes; and his acquaintance with the state of the peritoneum in tympanitis ought to have proved to him how little the contact of air is connected with the production of inflammation. A red colour, he observes, is not essential to inflammation, for the intestines have been found of a sea green colour when the smaller arteries were gorged with red blood, and when at the same time there were patches of coagulable lymph on the surface of the intestines. We have frequently remarked this green appearance of the intestines, particularly however, in the villous coat, and in the vicinity of dysenteric ulcerations. It was evidently caused by the fluid contained in the vessels, which was of a light green colour, and could not arise from the part being stained with the contents of the bowel, which were at the time remarked to be of a different colour. This circumstance is worthy of attention, because it is of importance to possess a familiarity with all the appearances of inflammation.

The effect of colic upon the muscular system in general is very remarkable. In the acute stage it produces spasm and cramp, and in the chronic it is attended with a shrinking or falling away of the extremities; in such cases Dr. Monro

has found the muscles converted into a suety substance, similar to the change which they sometimes undergo in scrofula and rickets. The coats of the alimentary canal are sometimes reduced to a pulpy state. The intestines are much thickened, and feel soft and pulpy. They are not dilatable, and emit a peculiar sweetish smell. We have often seen the intestines reduced to a pulpy state, similar to the condition of the stomach when acted upon by the gastric juice, and we have also imputed it to the power of the secretions of the intestines in effecting a partial digestion. In one case it proceeded so far as actually to destroy the canal, and allow the escape of its contents. The state however, described by Dr. Monro, unquestionably precedes death, as it is attended with disease of the mesenteric glands.

The account of hydatids is very full, and as far as our knowledge of these remarkable animals at present extends, is very complete. Dr. Monro has described two varieties which he conceives have escaped the notice of naturalists and pathologists. In one species the cysts are compressed together and form a substance about the size of a garden pea, being liable to be mistaken for an indurated lymphatic gland. They are firmly united to each other by a very adhesive mucus and by a thin membrane, besides which each of them is enveloped by its own proper capsule. They are very small, being about the size of the ovula in the ovaria of fishes. They are found in the ventricles of the brain principally, and upon the choroid plexus. In the other species, the hydatids are united laterally to each other: of this variety Dr. Monro has seen but two instances and both were connected with the liver. The formation of hydatids does not appear to be attended with any particular disease of the part in which they exist, and hence when they are discharged the patient generally does well. There are many instances upon record in which hepatic cysts, containing hydatids have burst externally, and after discharging their contents have healed and the patients recovered. There is something indeed peculiar in the action excited in the organ in which hydatids are contained. The parts above the cyst become absorbed in a much greater degree than in common dropsical cysts or in abscesses. Nature seems thus to promote their expulsion; and if hydatids are lodged in the brain, Dr. Monro observes that the cranium over the part becomes soft, and may be cut without turning the edge of the knife. In some cases holes are formed in the bone, although the dura mater remains entire, and even although the cysts

containing the hydatids is still covered by a seemingly sound portion of the brain and pia mater. As the existence of hydatids is to be regarded merely as a disease in, and not of a part, it is reasonable to expect that the destruction of their vitality, or their evacuation, will be followed by a perfect recovery, and accordingly Dr. Monro advises, that if the sac is stationary it should be punctured with a large trocar and emptied of its contents, or, if this cannot be effected, that the smoke or infusion of tobacco or camphor, or some substance that will kill the hydatids, should be injected into it. The effect of smoke of tobacco in one case, in which these animals were lodged in the lungs, is an inducement for its employment, but its occasional effect upon the constitution should render us very cautious how we confined so large a quantity in a hydatid bag. Indeed the excitement of inflammation in such large cysts by the employment of injections, appears to us highly dangerous, and exposed to all the hazards which have been known to attend the injection of dropsical ovaria. We should therefore prefer acting upon these animals by such medicines taken internally, as would produce their destruction, by impregnating the fluids with a substance destructive to their existence. All the preparations of iron are direct poisons to white blooded animals, and we would suggest its internal employment in cases of hydatids, as a most direct antidote to their existence, and a remedy which may be used to a very considerable extent, without producing constitutional derangement. The existence of hydatids in quadrupeds is found to be owing to the moist nature of their aliment, and the employment of food of a drier quality in sheep and rabbits, animals remarkably prone to this disease, universally causes the death of the hydatids. This circumstance at once indicates how much is capable of being effected in this complaint by attention to the ingesta.

The mucous glands of the alimentary canal are, in Dr. Monro's opinion, the primary seat of schirrus.

"This organic disease is most frequent in those parts of the alimentary canal where the mucous glands are most abundant, as at the cardia, pylorus, caput cæcum coli, and rectum, but it is not limited to such situations; for occasionally, it has been observed in every part of the alimentary canal.

"By this disease the alimentary canal is more or less contracted, and in a few cases, totally obstructed.

"The part affected by schirrus has a contracted and irregular form, when pressed, feels hard and heavy, and generally adheres to

the neighbouring parts. The schirrus is generally limited to one part of the gullet or stomach, or intestines, but sometimes it pervades the greater *share* of these organs.

"From having examined many specimens of this organic disease, I am induced to believe, that the disease takes its origin in the mucous glands, in the form of small little hard knots, some of which do not exceed a pin's head in size. Some of these glands rapidly become larger, and push inwardly upon the villous coat.

"The disease is propagated from the mucous glands to the cellular substance, which intervenes between the coats of the affected part, which attains an unnatural thickness and hardness, being converted into a dense, tough, yellow substance, like the white in the skin of the orange, through which fibres of a cartilaginous appearance pass in different directions.

"The peritoneal coat attains an unnatural hardness, and resembles the coarser kinds of parchment, and in some cases, acquires the transparency of horn; in others, it attains an unnatural thickness.

"The muscular fibres of the muscular coat are seldom to be seen, and when visible, are generally of a paler colour than natural, and are separated from each other by cartilaginous septa of different thicknesses in different cases."

The only basis upon which this opinion is founded, rests upon the circumstance of schirrus generally commencing in that part of the stomach in which mucous glands are most abundant, namely, the cardia and pylorus. There are other structures also, which are more perfect in these situations than in any other part of the viscus, as the muscular fibres and connecting cellular membrane, and our dissections have often exhibited to us genuine schirrous tumors in the latter, over which the mucous coat was continued and appeared to possess all its natural properties. We have often found the schirrous tumor situated between the peritoneum and muscular coat of the pylorus, being totally unconnected with the mucous membrane; and were these glands the primary seat of schirrus, we might expect to find the disease commencing more frequently in other situations in which they are equally abundant. A considerable portion of this bulky volume is occupied with an examination of obstruction, arising from a displacement of a portion of the alimentary canal, and of course comprises the very extensive subject of hernia. In truth this part of the work is principally a republication of Dr. Monro's observations on crural hernia, containing the same remarks and self same engravings, and might in our opinion have been very advantageously omitted,

not only because the subject has been much more perspicuously handled by other writers, but also because the propriety of including the anatomy of Fascias, in a treatise on the morbid anatomy of the alimentary canal, may legitimately be questioned; not to mention the cogent argument of the extraordinary expense which it entails upon the work. If this section contains any thing novel or important it is the description of some rare varieties of hernia, most of which were communicated to our author by Mr. Allan Burns. The following is open before us, and we give it as a specimen of their importance in general, and the kind of reasoning that is attached to them.

“ On dissection, I found the inguinal canal fully as large as it is usually met with, in the male, and besides, so very short, that it presented, when fully unfolded, almost the appearance of a mere aperture. The round ligament of the womb was enveloped in a distinct tunica vaginalis, and bearing the same relation to the intestine that the spermatic cord does in the other sex. On the right side, the herniary sac was about two inches in length, and in shape resembled a Florence flask; the bulbous extremity, extending from the lower orifice of the canal, was contained in the upper part of the thigh, *lying more in the course of a crural than of inguinal hernia.*

“ By dissection, we ascertained, that the deviation from the usual direction of the tumour was produced by a premature separation from each other, of the external pillars of the inguinal canal. Where the inguinal canal is imperfectly formed, it is generally owing to the incomplete extension of the posterior or internal side of the ring.

“ Where this happens, the internal orifice of the canal is brought nearer to the pubes than it ought to be, but when the imperfection is produced by a premature separation at the external pillars, then, by dissection, we find the internal orifice in its proper place, but the external outlet is removed from the pubes.

“ In the first instance, when the herniary tumour protrudes, it lies just over the tubercles of the pubes, and follows the course of the spermatic cord into the scrotum, while in the latter, it lies nearer to the spine of the ilium, and is seated just over the CRURAL FORAMEN, and by extension, descends along the thigh, *counterfeiting the appearance of femoral hernia.*

“ By attention, however, it is readily distinguished from the latter, by being felt lying over the crural arch, and on the outer side of the tubercle of the pubes.

“ When the bowels follow the course of the inguinal canal, the epigastric artery is situated nearer to the symphysis pubis than the hernia ; whereas, when the bowels do not follow such a course, but pass only through the UNDER ABDOMINAL APERTURE, then the epigastric artery is situated nearer to the anterior spinous process of the ilium than the hernia.”

We assure our readers that out of the immense field of more than five hundred pages, the above are all the gleanings which we can suppose interesting to them, either from their novelty or importance. It remains for us now to give our opinion as to the mode in which the work in general is executed, and on this subject we have only to observe, that as a system it is neither comprehensive, luminous, nor precise. On the contrary, it is extremely defective, omitting the consideration of many points which decidedly belong to the subject. It is diffuse, confused in arrangement, and abounding in heterogeneous matter, and the style is ambiguous and inelegant. In its perusal we have been often offended by a peculiar anxiety in the author to heap discoveries upon his own connections, and were disgusted by an attempt to transfer the originality of Bichat's doctrines of membranes, to his kinsman Dr. Carmichael Smith. Granting that Dr. Smith had published some remarks which may be conceived to imply an acquaintance with this important subject, he is the last man for whom we would plead for the merit of originality, convinced as we are of the priority of another claim to a discovery for which Dr. Smith has received a most distinguished public remuneration. Upon the whole Dr. Monro's work is valuable because it contains a few facts which had hitherto remained unnoticed, and because it comprises a considerable collection of facts in confirmation of previous observations. The accumulation of facts on a subject of such vital importance is very desirable, because each case offers something new, or tends to the establishment of those principles which can alone reduce the subject to systematic arrangement. “ Possessing no demonstrated principle, whence the particular facts might be deduced as consequences, the whole science as yet consists in the series of these facts only ; and we cannot hope to discover general causes, but in proportion as we may be able to class the facts, and succeed in arranging them under certain common laws.”

ART. III. *Practical Observations on Cancer.* By the late John Howard, Fellow of the Royal College of Surgeons, and Surgeon Extraordinary to the Cancer Ward in the Middlesex Hospital. London, Hatchard. 1811. pp. 144.

Observations on the Cure of Cancer. By Thomas Denman, M. D. Licentiate in Midwifery, of the Royal College of Physicians, &c. 8vo. London, 1810. pp. 90.

HOSTILE although we have always been to the multiplication of trivial publications on subjects connected with medicine and surgery, yet we must acknowledge that we were gratified by the appearance, and the perusal of these slight performances. It is our anxious wish, that the attention of the profession, should be frequently and impressively recalled to the consideration of the dreadful malady to which these tracts relate; and we entertained no doubts that when the difficulties and deficiencies belonging to this subject were again brought forward by a physician and surgeon highly respectable and very eminent in their separate departments, a new stimulus to enquiry must be produced. Every idea connected with cancer, impels us to this important labour. The inefficiency of our means not only to cure, but often even to palliate the disease, and the loathsome, hideous, agonizing, hopeless character of it, call upon us with no common voice, energetically to pursue the investigation. The importance of this enquiry Dr. Denman has with great truth and feeling thus exhibited.

“Of all diseases deemed incurable, that which is denominated Cancer has been most generally allowed to be so. The frequency of this disease, and the dreadful sufferings of those who are afflicted with it, are universally known. An investigation of its nature, and of some means by which it may be prevented or cured, is therefore an object of the greatest interest, to all who direct their powers towards lessening the mass of human misery.”

These publications appear in a great measure to have originated from an establishment formed in London, in the year 1801, for the purpose of investigating the nature and cure of cancer. Considerable subscriptions were obtained, medical officers were appointed, and a ward in the Middlesex-hospital was appropriated to the reception of female patients afflicted with this disease. In a short time, however, it appeared, as we are informed by Dr. Denman, “that the great primary objects of the institution were imperfectly answered, owing to various causes which it is not necessary to repeat.” “The institution was accordingly

suspended," and he therefore hopes that another may be founded free from the inconveniences of the former. In this hope we cannot very earnestly unite with Dr. D. Were we certain that the benevolent intention by which he is influenced, would be most effectually answered by such an establishment, we should most cordially join in the wish for its renewal and extension. The hospitals now existing and conducted upon their present plan, are in our apprehension, as well calculated for the reception and management of cancerous as of other patients; and we believe that the surgeons attached to them, do now possess every opportunity which can possibly be obtained,* for making themselves acquainted with the disease, and acquiring, if indeed it be acquirable, a knowledge of the means by which the disease may be overcome. It is not we are persuaded, from the want of such an establishment, that so little has yet been discovered respecting this formidable complaint, and we are not altogether free from suspicion that these institutions may degenerate into improved but dangerous empirical instruments, notwithstanding what on a former occasion we admitted, when speaking of the Infirmary for Diseases of the Eye. The division of labour to the greatest extent, is unquestionably consistent with the soundest principles of political economy, for by it manual dexterity is made to attain its highest excellence: but intellectual dexterity cannot thus be successfully advanced. If the laws which govern the motions of the hands, be extended to the movements of the mind, we are much afraid that there will be an end of those grand and comprehensive views of the animal economy, which distinguish the scientific enquirer, and which will ultimately confer the most valuable improvements on the healing art.

Having in the last number exhibited to our readers a sketch of the crude opinions and unsuccessful practice of Mr. Howard, we shall now proceed to point out those parts of Dr. Denman's pamphlet which appear to us most entitled to notice. And here it may be proper to remark that in determining to write on the subject of cancer, Dr. Denman, as he has distinctly intimated, was not influenced by the consciousness of possessing original information; for in the first instance he proposed to have given an abstract of all that has been produced respecting this disease, by writers ancient and modern. The extent and inutility of this plan, which he soon perceived, caused him to abandon it, and he then resolved to give "upon autho-

rities which cannot be doubted, an account of the morbid changes of structures, in parts actually in a cancerous state; to discover, if it were possible, for the further explanation of these, some analogous appearance; and then to proceed to the method of cure; interspersing," he adds, "such conjectures and observations, as have arisen in my own mind, or as I may have collected in conversation with my friends, or as have occurred in my own practice." In the execution of this plan, Dr. Denman we conceive has not augmented the well merited stock of reputation, which by his truly useful and instructive writings on midwifery and his long successful practice of the art, he has been enabled to obtain. Those who from personal intercourse, have had an opportunity of acquiring a knowledge of the benevolence of his disposition, will at once discover a motive for this publication, far superior to the expectation of profit or of fame. Whilst we offer this opinion, we are however ready to allow, that the observations on the cure of cancer display sagacity, and evince a clear comprehension of the subject, derived from very attentive and intelligent inspection. This remark the following quotation we think must fully justify.

"In such an investigation as in this case is absolutely required, an accurate natural history of cancer would be of prime advantage; and ample materials for such an history we now possess. The first part of such an history, should comprise a description of that kind of constitution, which has been observed to be most liable to cancer, and which is pretty strongly marked in the complexion and general aspect; of the predisposing and immediate causes; of those parts most liable to, or most frequently the seat of the disease; of the peculiar structure and functions of those parts: of the manner in which it commences, and makes its progress; of the medium by which that progress is made, whether by absorption, or otherwise, and it should be remarked, whether the effects of cancer vary according to the structure of the parts affected; or whether in its varieties there be any specific alteration in the nature and qualities of the cause of the disease. If different diseases have gone under the general appellation of cancer, the points of resemblance and difference ought to be strongly delineated, and no position is to be admitted as irrefragable, however great the authority with which it may be made, without submitting it to the most accurate and severe examination; by which our advancement towards the great object of our aim, would indeed be rendered apparently more slow, but far more correct and beneficial."

Dr. Denman having asserted in the passage just quoted that we possess ample materials for a natural history of cancer, we are bound to believe that such materials lie at least in store; we cannot therefore avoid expressing our regret that they have not yet been given to the public. His account of cancerous structures, derived from the writings of Dr. Baillie, Mr. Abernethy and Mr. Home, however valuable, cannot have been mistaken by Dr. D. for the ample materials of which he speaks. In describing a diseased state of the stomach, Dr. Baillie states "that the coats of the œsophagus were very hard and much thickened, and on the cut surface may be observed many white transverse lines. These represent the cellular membrane interposed between the muscular fibres thickened by disease." He mentions likewise some transverse white lines dividing the muscular coat of the stomach, which he says "consist of thickened cellular membrane," and that in a schirrous uterus a prodigious number of membranes intersecting its substance in various directions, and several tumors imbedded in its substance, were observed. Mr. Abernethy in describing the structure of a carcinomatous tumour, says "the diseased part is peculiarly hard," that "there are mixed with it firm whitish bands," and "that there is no other circumstance which can be mentioned as constantly claiming attention in the structure of the disease." Sometimes these bands, which he also says "are like thickened and compact cellular substance," proceed like rays from a centre, but at other times assume an arborescent arrangement, ramifying through the diseased substance. In conformity with these representations are the accounts given by Mr. Home, of the appearances which he observed in cancerous tumors. He found a centre from which ligamentous bands of a white colour proceeded like rays in every direction, but he has likewise noticed transverse ligamentous bands forming a kind of net-work, in the meshes of which the new formed substance is enclosed.

How the knowledge of "these very conspicuous white transverse lines and intervening membranes," can "be of much utility in many points of practice," we have not been able to discover. The utility certainly is not made obvious by any thing relative to the cure of this dreadful malady, which Dr. D. has produced or projected. In forming a correct diagnosis, an object of unspeakable importance to the comfort of a large number of individuals, this knowledge can

avail nothing; for admitting the structure described to be exclusively cancerous, it can only be detected when excision of the part has been performed, or when death has occurred. We feel ourselves likewise unable to admit from the premises advanced, the conclusion that these lines, filaments or bands are "the medium by which the disease is conducted from one part to another;" and the corollary flowing from it, that unless the whole of these filaments shall be removed or destroyed, the disease must be continued. The existence of the cancerous action was, it will scarcely be doubted, prior to the formation of these structures and the cause of their formation, and all that we ought to infer is that whenever such structures are perceived, the cancerous action does still continue to prevail.

It would indeed be most gratifying to us, if we were provided by Dr. Denman with any information respecting the cure of cancer, worthy of the notice of our readers. A recommendation of *flores martiales* appears in a long account of Mr. Justamond's practice, and of other preparations of iron, employed according to Mr. Carmichael's account of his own practice with great success. Of the application of carbonate and oxyphosphate of iron, although he seems to be very sanguine in his expectation of benefit from their use, Dr. Denman we conclude has had no experience, for he contents himself with quoting a few of Mr. Carmichael's cases. In this application, as far as has fallen under our own observation, we regret that we can speak only of temporary palliation; in no instance of a cure.

ART. IV. *Clinique Chirurgicale, ou Mémoires et Observations de Chirurgie Clinique, et sur d'autres Objets relatifs à l'Art de Guérir.* Par Ph. J. Pelletan, Chirurgien consultant de L. L. M. M. I. I. et R. R. &c. &c. Chirurgien en chef de l'Hotel Dieu, &c. &c. &c. 3 Tomes, 8vo. Paris, 1810.

THERE are but few surgeons who can affix to their names so many adjuncts of titles and places as Monseigneur Pelletan. The title page is adorned with about twenty, and the list concludes with an intimation of his being a member of other learned societies, "*nationales et etrangeres.*" He informs us at the end of a lively preface, that they are given as proving the sources from which his experience was derived. "But the titles the dearest to my heart, are those which I owe to the munificence of the heretofore which governs us." After a few more flourishes about his ardent admiration of the glory and goodness of this greatest of heroes, he finishes with an exclamatory wish that his happy posterity may equal in number the stars of the firmament, &c.!!

He appeared so full of his patron's generosity, so overcome with the favours of being appointed surgeon extraordinary to their imperial and royal majesties, a chevalier, and a member of the legion of honour, that we felt alarmed, lest he should burst out into some rapturous apostrophe to his majesty, whilst discoursing in his first memoir on the ticklish theme of cutting throats. We were happy to find however, that when engaged in illustrating a point in surgery, he became a very surgeon; and never turned from the path of his own experience, but to examine for a moment the practice of others on similar occasions. He is a little smart sometimes in his criticisms, but they appear impartial; they are on acts and not on the actors, and they always tend to throw light on the subject in hand.

M. Pelletan is now growing old in the exercise of his art. He appears to have made some use of the very ample opportunities which his reputation have placed within his reach. The fruits of his experience are now before us. He publishes them to discharge a duty which he thinks he owes to his successors. It is a duty which he owes in common with every medical man, who, like him, has enjoyed the advantage of great opportunities, has talent enough to turn

them to good account, learning sufficient to know what is really new to his profession, and discretion to leave unsaid what has been already well told by others.

The author communicates his observations in the form of memoirs, taking for his models what are indeed chefs d'œuvre of the kind, the memoirs of the royal academy of surgery. His subjects are the most important and interesting in surgery. He professes not to give complete treatises on any topics, but all the new and useful matter that he could draw from his own sources. The whole work is written with clearness and spirit, if we except a few instances of a little garrulity, which may well be pardoned in a Frenchman, who tells us he has held his tongue for forty years. It bears the character of close and original observation, and forms certainly the most valuable present in surgery which we have received from our neighbours, since the publication of the surgical works of Desault. From this consideration, as well as from the comparative rarity of foreign books, we shall best perhaps consult the interest of our readers by going briefly through the whole of the contents of these volumes.

The first memoir is on bronchotomy, an operation rarely required and still less frequently performed. It is not often that the patient, or the patient's friends can be brought to consent to the performance of an operation, which to common minds has in it something peculiarly dreadful. Nothing probably but great firmness on the part of the surgeon in pressing it will ever prevail. In order to give him that steady confidence in the resources of his art in the hour of difficulty and distress, nothing will contribute so effectually as a knowledge of cases in which the operation has been performed with success by surgeons of high character for judgment and experience*.

It is most urgently called for in the case of foreign bodies in the windpipe. It may also become necessary in other cases for the purpose of giving a passage to air. It is performed by making a small transverse cut between two of the rings of the trachea; or between the cartilages of the larynx; or by making a longitudinal incision through either of these parts. The author prefers the longitudinal division

* For some excellent observations on this subject, see the 1st, 4th, and 5th volumes of the *Mémoires* of the Royal Academy of Surgery; and also a memoir in the second volume of the works of Desault, who in some cases to allow of respiration, passed an elastic gumtube into the trachea from the nose, instead of making an opening into the trachea.

in every case. To give passage to air, he makes it through the trachea; to remove foreign bodies, through the trachea or larynx, according to the situation in which they will most probably be found.

M. Pelletan has given in detail several cases in which he has himself performed the operation with various success; six in which he made an opening for the purpose of disengaging foreign bodies which no effort of the patient could reject. It is we believe very rarely that any body which has once dropped into the trachea, has been thrown up again through the irritated and constricted glottis. It is most commonly in these violent convulsive coughs that the patient suddenly expires. On the other hand we know from experiments which have been made on brutes, as well as from the cases in which this operation has been performed on the human subject, that the foreign body, if loose, is forced almost instantly through the wound, if large enough to admit of its passage. If not, no search is necessary, as it speedily presents at the opening, and may be seized without difficulty.

In the first case in which a bean fell into the trachea of a child, the author performed the operation on the fourth day, but it was too late to save its life; the bean was thrown out with violence, and the patient for a time relieved. In a similar case he operated on the third day; the bean was forced out at once, and the child recovered. In a third instance in which a pebble was lodged in the windpipe, the case had been treated for twenty days as one of simple inflammation of the lungs. The opening was made, and by laying the child flat, the stone was presently thrown out. He was at once relieved, but never recovered the effects of inflammation, and died phthisical at the end of eight months.

In the other three cases a foreign body was impacted in the larynx, and it became necessary to use further means in order to disengage it. In a child our author made a long opening into the trachea, but nothing presented itself. The symptoms came on whilst the child was biting the head of a fish. A stilet wrapped round with oiled linen was then passed up and down the larynx several times without causing much irritation, and the child continued to breathe freely through the tracheal aperture. The body was presently brought to the opening, and extracted. It proved to be part of the jaw of the fish with many sharp teeth in it. The child soon recovered. A young man was supposed to have had a button mould in some part of the windpipe for six weeks; and pointed

to the larynx as the seat of his uneasy feelings. From an opening in the trachea, the button was felt by the finger, but could not be withdrawn. The cricoid cartilage was divided, and the button was easily taken out of the left ventricle of the larynx. He was cured. A case very similar is related in Desault, in which a cherry-stone was lodged in the same place. The patient would not consent to an operation, and died after two years, "*d'une phthisis larynge.*" In the last case a portion of tendon of veal was supposed to be fixed at the top of the larynx. It could not be disengaged by the finger, or by an instrument passed in from the mouth. The author divided the thyroid cartilage, passed up his little finger, and displaced it without knowing that he had done so. The patient was at once relieved.

If the substance be small and smooth, it sometimes remains loose in the trachea for a considerable time, producing only occasional fits of suffocation with intervals of ease. But the case can only be relieved by an operation; and to temporise, is only to increase daily the probable chance of fatal consequences. If the obstruction is of long continuance, or if it exist to a great degree, we have not only inflammation of the trachea, but great congestion about the head, which after the removal of the foreign body still requires active treatment for its removal. In the first case, where the patient died, the vessels of the brain were much loaded.

The author relates some other cases in which he performed the operation to give a passage to air. In one the patient was choked by a small polypus attached to the side of the glottis; and he was called too late to recover him. In another the woman was dying, suffocated by a chronic thickening of the membrane of the larynx. The operation was of no use. In a third, a child with enlarged tonsils of some years duration was attacked by inflammation of the throat, and respiration was so much impeded as to reduce him to the last extremity. He was relieved for a short time by the operation, but at the time of its performance was comatose with a fluttering pulse, so as to remove all expectation of his recovery. In similar cases our author advises that the operation should be performed at an early period of the attack.

The only case of croup in which he thinks the operation could be of service, is where the disease is confined to the larynx; a rare case we must suppose, and one of which the diagnosis must be difficult. In every other case M. Pelletan

agrees with the best writers on this subject, that the operation would be not only useless but injurious.

We have seen the trachea opened in order to inflate the lungs in a case of suspended animation; and we believe that the operation is still occasionally performed for this purpose. It is however worse than useless, as a curved tub may be passed into the trachea from the mouth or nose. Pelletan passes it from the mouth and it is the only case in which he thinks it can be used with advantage. If other rules the plan of passing a tub through the trachea either into the trachea or oesophagus which it is well known was particularly recommended by Boerhaave. As the instrument can be passed far enough back to enter the larynx, as in infants, it may usually be pushed into the trachea with most ease from the mouth.

Our author deprecates the practice of passing instruments into the oesophagus when the foreign body is in the larynx or trachea. In one case especially when the body is loose in the trachea the symptoms are so strongly exhibited as to leave no room for doubt. But it is no less true that the urgent symptoms of suffocation which sometimes attend the impaction of foreign bodies in the gullet cannot in every case or at the instant be accurately distinguished from the choking caused by a body fixed in the larynx. A very surgeon therefore in a doubtful case should endeavour to examine the pharynx or to pass an instrument down the oesophagus. The case has happened where a surgeon made an opening into the trachea when the cause lay in the oesophagus. The patient died unrelieved. In such a case he could have passed an elastic gum tube into the trachea to allow of respiration until the oesophagus was examined or the body removed. Again, there are other cases on record of hard bodies lodged in the pharynx or oesophagus in which an opening made into the trachea by the surgeon has saved the patient's life.

Whatever be the occasion for which bronchotomy is performed, one point would appear determined by the cases before us, which is, the safety of making a longitudinal opening into the trachea. There is no instance recorded amongst them of bleeding of consequence enough to stop the operation for any time, or to interfere seriously with the relief it afforded. All that appeared necessary if the bleeding continued after the aperture was made, was to leave the wound open for a time to allow the free expulsion of the blood from the trachea by coughing. Yet M. Pelletan divided several of the

rings of the trachea : he must have cut through some considerable veins ; and in the case of the young man with the button in the larynx, he must have cut through the vascular thyroid gland at the narrow part which unites the lateral portions. Desault preferred opening the larynx to the trachea on account of the greater facility with which it might be done, and more particularly because there was no risk of dangerous hæmorrhage. In one case, of a child who had a bean in the trachea, the operation was deferred for some time, from a fear that the child would be choked by the blood which flowed freely from the first incision. Before however the blood was stopped, the child died by suffocation from the bean. Pelletan here has gone beyond this great master. His judgment and his boliness have encouraged us to proceed at once to opening the trachea where the danger is pressing. If the case is not urgent it will certainly be better to restrain the bleeding before the incision is made into the trachea. The loss of blood is probably in itself a benefit, as it might in some measure be avoided by using the handle of the knife chiefly, after freely dividing the skin.

In children, in whom the trachea, though exposed, is more than proportionally small, and not easily liked, and the throat often fat, if the surgeon is wanting either in coolness or steadiness, he may fail of his object, or with the point of his knife he may endanger many important vessels. However, granting that no danger is to be apprehended from bleeding, the operation here recommended is much to be preferred to the transverse opening, in the case of foreign bodies in the trachea. Our author prefers it also when the section is made merely for the purpose of giving a passage to air. It is not so liable to be plugged up with mucus ; it dispenses with the use of a canula or tube of any kind ; and the wound heals more speedily. It may be added also that a longitudinal opening into the trachea excites less irritation, and does less injury to the voice than any opening into the larynx. The presence of a canula excites violent and repeated efforts to expel it by coughing, so that it is often in vain that the surgeon endeavours to keep it in its place. He exemplifies the comparative quickness of the healing of a longitudinal wound by the length of time necessary for the cure of transverse wounds in persons who have cut their throats. And the *Memoir* concludes with several of the latter cases, some of them interesting, but not much in point with respect to the question under discussion. Without having recourse to such elucidations, he would have found no difficulty in persuading

us of this fact, or that a large transverse wound through the front of the neck and the trachea is always followed by some impediment to the free motions of the larynx.

The second memoir is on the subject of internal aneurism. Where it is possible to apply a ligature on an artery between the seat of the aneurism and the heart, the case is generally within the reach of surgery. From the judicious boldness of surgeons in this country, the practice has been of late carried to a much greater extent than was supposed possible by theorists, and far beyond what the boldest operator even but a very few years since would have dared to venture. We are not prepared to say that arteries of larger size may not be tied, and even nearer to the heart than has yet been attempted. But there are many cases which the knife and the ligature can not reach: and which are generally considered as incurable, either from their situation, which precludes any operation, or from the vital importance of the artery itself. These are left to advance to a fatal termination, or if any plan of cure is proposed, so little expectation is there of any successful issue, that it is carried on with hesitation and soon altogether abandoned.

It is well known that Valsalva advised in such case a mode of treatment by bleeding, perfect rest and a starving diet, by which he is said to have succeeded in alleviating distress, and in retarding the increase of the aneurism in some instances, and to have cured all symptoms of the disease to disappear in others. The same method has been now and then put in practice by others: but it has been done with faint hopes, and failing resolutions, and more with a view to protract a miserable life than ultimately to remove the disease. Valsalva's case is often quoted, but it is more to doubt of their truth, than to adduce them as examples to be followed. Mr. Allen Burns evidently gives no credit to the accounts, and supposes Valsalva to have deceived himself. He asserts that in no case of internal aneurism is it possible to cure the disease. He gives however no facts to prove the inefficacy of the plan, nor does he appear ever to have put it in practice.

From the obscurity of the symptoms at the commencement it is often difficult to determine the existence of internal aneurism at the time it is most susceptible of cure. It is a case therefore which particularly demands close attention and accurate knowledge on our part. It further requires from us for its cure, a constancy in our purpose, and from the patient a confidence in our judgment to induce him to submit with patience to discipline so severe. The intent of the treatment is

to reduce the patient gradually to as extreme a degree of weakness as is possible without imminently endangering life. It is done by absolute rest, a rigorous diet, and bleeding; to these means M. Pelletan adds the external application of ice, or cold and a triscent washes, &c. He has here detailed many cases from his own practice, of partial or complete success which cannot be too generally known, as they may be the means of creating in some, and of confirming in others, a good opinion of the only method of treatment which has been found at all efficacious in a dreadful and not unfrequent organic disease.

Of the cases here recorded, some appear to have been cured, in so far as the treatment had marked good effects. In extreme cases, it left it afforded but partial and temporary relief. We can notice but a few of these cases, which are in every respect strikingly interesting. In one, a man, 40 years of age, an aneurism at the root of the aorta with a pulsating tumour of the size of an egg projecting between the ribs, (the edges of which were chiefly gradually absorbed,) was reduced so as to decide on the propriety of the cure of eight days. At the end of this period, he refused to submit any longer. The tumour did not appear again on the 1st of year, although he returned to very dry and macerated humors. He died in about two years after, with the tumour again appearing, and much increased in volume. The aneurismal sac communicated with the aorta by a smooth and round opening, opposite to one of the coronary valves. There can be no doubt on the efficacy of the treatment in this case; and it is highly probable that his health and in due might have been long preserved but for his own indiscretion. In a case somewhat similar, but not so far advanced, the patient appears to have been cured. There was a swelling on the right side of the breast, about six inches in circumference, with a very strong beating. The pulsation was accompanied by a pain which stretched towards the scapula, and the occiput. It was evident that the disease was an aneurism of the great arch of the aorta. The patient was a man of a strong frame, who was accustomed to drink freely. In the four first days he was bled eight times, drawing three dishes "pullets" in the morning and two in the evening. On the fifth, the pulsations and the beating were much lessened, but the pulse was still full. He was again bled once. The pulse was in a favourable state as to strength till the seventh day, when it again rose, and the man was twice bled. During this time the patient was kept to a most rigorous diet. A cold poultice of linseed and vinegar was placed

on the leg, and renewed when it became warm. At the end of eight days the good effects of this plan were very evident; the pain and the pulsation were gone. The patient, though weak, was in health, and tranquil. He was now allowed more food by degrees. At the end of four weeks from the commencement of the treatment he left the Hotel Dieu well. He afterwards led a sober life, became fatter than before, without any vestige of disease, except a slight and deep pulsation at the part in which the aorta may always be felt beating in its natural state. He died two or three years after of another complaint. His death was not known, and the body was not examined.

We have room only to notice one more case of a large aneurism of the axillary artery. The author considered an operation out of the question; and certainly in some advanced cases the difficulties of tying the subclavian artery, are almost insurmountable. We have seen in such a case a natural cure effected, when nothing was expected but the death of the patient. But in the present instance there can be no doubt but that the disease was overcome by the active means employed. On the thirteenth day the patient was reduced to a degree of weakness which much alarmed many of the observers. From that time all pulsation in the tumour ceased. The contents were gradually absorbed; and the patient returned to his former laborious life, with his arm as strong as ever.

The next memoir on external aneurisms we shall examine at the same time with another on the same subject in a future part of the work. It is followed by some observations on tumours remarkable either from their situation or their nature. The object is to encourage us to operate in some cases, and to warn us against making the attempt in others, where the evils of an operation far exceed those of the tumour.

Six of the cases are of tumours in different parts of the pelvis, which were removed by operations. Some of them were moveable, and loosely attached; and were easily removed by dividing the vagina which was stretched over them. In one case the tumour was of a cartilaginous nature, and had its origin from the descending ramus of the pubis. In a case of encysted tumour seated high in the pelvis, Mr. P. made a large opening into the sac from the vagina. The sac did not fill again, and the patient speedily recovered. Some of these tumours had occasioned considerable inconveniences, and had injured the health of the patients from the irritation they excited. In all, the operation was easily executed, and the cure soon accomplished. We have reason to believe that

tumours in the pelvis are not of unfrequent occurrence, and that they have been allowed to remain in many cases in which they might have been removed with facility. Mr. Park mentions first cases which came to his own knowledge of tumours in the pelvis obstructing labour; and one case in which a tumour occasioned much distress and danger from its locality when the uterus was not impregnated.

There are several cases given of loose fatty tumours of large size which were easily removed from different parts of the body. Indeed so slight is their attachment in parts where the cellular membrane is abundant, and so small are the vessels which enter them; that very large tumours of this nature may be removed with perfect safety from the neighbourhood of large vessels, or other important parts. The author relates one case of a removal of a fatty tumour which extended from the larynx to the spine, of the scapula, passing under the sterno mastoidæus muscle. We have seen tumours of a similar nature removed from the front of the neck with surprising facility, which left exposed, and dissected as it were all the deep seated parts lying between the larynx and the jaw. These tumours are so loose that when the skin is turned back, they may be drawn out, and the connecting cellular membrane divided on them without the least risk of cutting any part of consequence. The only danger to be apprehended in the removal of such tumours, wherever they are seated, arises from the extent of surface exposed, and the want of power in the patient to heal the wound, after the shock of such an operation. M. Pelletan gives one case of this kind, in which a tumour weighing twenty two pounds was removed from the side of the chest. The operation was long only from the extent of the surface to be dissected. But the patient, who was sixty years of age, never rallied, and died on the seventh day.

There are no other cases of much interest, excepting one with an abscess of which we shall conclude at present. It is a case of a bronchocele removed by the knife. Of the three cases mentioned by Goeth, two died from bleeding, an one of whom the operation was left unfinished; and the life of the third was only saved by constant pressure with the hand for eight days. From the other surgeons we have many similar histories. We have no fear in the present day that the patient will die of hæmorrhage. The arteries may always be secured. But the length and pain of the operation in cautious hands, and the deep disturbance of so many important parts, are more than most patients can bear; and the event at best is more doubt-

ful than the occasion warrants. We cannot now enter on the propriety of removing the thyroid gland when it is the seat of a disease in itself necessarily fatal: we are considering only the case of bronchocele; and we know not that in such it is ever justifiable. If the tumour from its size should seriously impede the functions of neighbouring parts, it will be from the same cause almost impossible to remove it with ultimate safety to the patient. We should not have said so much, but that this is the age of enterprise in surgical operations. We know that the gland has been removed with success*, and we want not experiments on brutes to prove its possibility. If any operation is called for, we should much prefer exposing and tying the arteries which are enlarged, to dissecting out the enormous tumour.

The case here related terminated fatally. It is a striking contrast to the case of fatty tumour above noticed. There was no bleeding of consequence. The arteries were secured as they were successively exposed during the operation which lasted an hour and a half. But the patient was struck down by the shock of so long and painful a dissection, and died in thirty five hours. The tumour weighed two pounds six ounces. The author adds that he shall always reproach himself for having assisted in an operation which so justly deserves the name of cruel.

ART. V. *An Enquiry into the Process of Nature in Repairing Injuries of the Intestines: illustrating the Treatment of Penetrating Wounds, and Strangulated Hernia.* By Benjamin Travers, Demonstrator of Anatomy at Guy's Hospital, Surgeon to the Hon. East India Company, and to the London Infirmary for Diseases of the Eye. 8vo. London. 1812. Pages 384. Longman, &c.

A BETTER exposition of the general plan of this instructive and interesting inquiry we cannot offer to our readers, than will be found in the following extract from the preface to the very valuable performance now before us. "Minute attention to the operations of the restorative principle will afford a clue to the rational treatment of those injuries in which it is displayed. Thus we have learned to unite wounds by adhesion, instead of leaving them to be filled slowly up with new matter—to rupture the capsule of the opaque

* Vogel Theden, Desault.

crystalline, in order to bring about its solution in the aqueous humour—to tie the diseased artery; more effectually to cut off the supply, and force the collateral circulation; and in the work which I now lay before the profession, my object has been in like manner to take a lesson from nature. I have endeavoured to ascertain the plan and limit of her operations in an important class of injuries, to compare the facts of history with the results of experiment; and from these sources to derive a rational and consistent theory of treatment.”

The particular circumstances which induced Mr. Travers to institute this inquiry, he has likewise very distinctly stated in the introduction; and they are at once so curious and so important, that they will we have no doubt, appear to all as they have done to us, loudly to demand and abundantly to justify the undertaking.

“The numerous examples of spontaneous recovery from wounds of the intestinal canal, and our imperfect acquaintance with the method of cure which nature adopts in these cases, were the circumstances which led me to the present inquiry. I was additionally urged to prosecute it, by observing the varieties of opinion which embarrass the practice of surgeons, and the questionable tendency of their proceedings in cases of mortified hernia. The frequent success of the operation of nature in such cases, and the frequent failure of the contrivances of art, are demonstrated by a reference to the sources of professional information; and I trust it is unnecessary to argue the importance of an enquiry into the cause of this humiliating distinction.”

The ancient opinion was that wounds of the intestines, by permitting the efflux of their contents and causing inflammation, were certainly mortal. It was found however, that in fact many frequently recovered, though wounds had passed at these any was that such an injury was little more than a wound of cellular membrane; and scarcely of more importance than one of similar extent under the skin. Though it was difficult to conceive how a weapon could pass in this manner, yet the idea prevailed, till several instances occurred of wound tended with discharge of blood, or of the missiles by which they were inflicted, by the natural passages, or sometimes with perceptible efflux of the contents of the viscera, and which wounds, nevertheless, were followed by recovery. Many

such cases are recorded by authors, and of these that so often quoted from Mons. Littre is among the most remarkable.

"A man, *æ.t.* 34, of a robust constitution, who was occasionally the subject of mental derangement, inflicted eighteen wounds upon his body with a knife, the blade of which was five inches long and seven lines broad at the handle. Of these wounds eight had penetrated the abdomen. Tension of the belly, difficult and painful respiration, nausea, and vomiting ensued. Blood was passed by the mouth and by stool. By means of copious bleeding and a strict regimen, the patient recovered in the course of two months. During the cure the body was preserved in the supine posture, that if possible the effusion which was expected might be restrained; for from the direction and depth of the wounds, and the passage of blood by the bowels, no doubt was entertained that these parts were penetrated. In a returning paroxysm, eighteen months subsequent to the former violence, the unfortunate man destroyed himself by leaping from a window three stories high. This event afforded Mr. Littre a highly interesting opportunity of ascertaining the existence and mode of reparation of the intestinal wounds. It is sufficient for my present purpose to say, that the jejunum and colon presented extensive cicatrices."

John Hunter, during his service in the army, as well as in his general practice, met with cases of this kind, and traced the mode of reparation to that general law of adhesive inflammation, the phenomena of which he had more especially set forth. He did not so much discover any new fact, as constitute a class of facts already known into a general law. He showed that certain parts of the body when divided, had a constant tendency to adhere, and with regard to the particular instance of wounded intestine, he gave proof that this tendency was brought into action in twenty four hours. He therefore justly attributed the occasional freedom from important injury to this rapid adhesion of the edges of the wound to that peritoneal surface to which they were contiguous. He adds a conjecture that effusion of the contents of the intestines into the cavity of the abdomen, takes place chiefly or solely when the bowel is full, or the wound large, and asserts that where a bullet in its rapid passage has injured, but not broken the gut, and when in consequence the gut after some time yields, and pours out its contents externally, there is not any danger of internal effusion, the parts round the wound being closed by the same process of adhesion. Mr. John Bell has also insisted on this process of quick union.

and has further opposed those who argue from the mistaken effects of air on shut cavities, by showing that, from the perfect fulness of these sacs, air cannot enter them without considerable force. He adds, that this fulness, passes over the intestine, in the same relative position, and in mutual contact with the adjacent parts.

Such seems to have been the state of known facts, and of common opinions, in respect to wounds penetrating the abdomen, when Mr. Travers entered on his enquiry. By numerous experiments, he has ascertained that the general opinion of the frequent occurrence of emission from wounded intestines is erroneous; that, in fact it does not take place in a great majority of instances; and that it occurs only, from a large wound in a distended bowel; or where, as he has proved by various cases, air is extravasated or blood poured out into the belly; for by these fluids less resistance is made to the escape of aculent matters.

As it has been known since the dissection by Litre confirmed by several subsequent cases, that the intestines may be extensively penetrated, and afterwards closed by cicatrization or adhesion with little inconvenience, it may be asked of what use it is to multiply experiments, to thrust swords into the flanks of horses, and make dogs upon cauls in proof of the fact. This may possibly have been done with too free a hand; but the use of it we conceive to be this: it proves that what have been regarded merely as exceptions, in truth constitute the general rule; that the ready tendency of the peritoneum to adhesive inflammation, which had been witnessed in some instances, and justly expected in many, does invariably occur with a most saving celerity. For our author has afforded demonstration of its existence in seven hours; and to this demonstration he only to increase our hopes of a happy event in such perils cases, but it proves to us the means by which it is to be promoted. By diminishing our dependency, and to our watchfulness and perseverance in eating and drinking and abstinence, leads us to watch with anxiety for the approach of general inflammation, and on its approach use the only means in our power to resist it with a freedom which can come from a well grounded prospect of success.

Mr. Bell lays it down in the beginning of his valuable chapter on this subject, that "a wound of the belly is a mortal wound,"* that it is so by inflammation, and that a com-

* Discourses on Wounds, part 2, page 56.

more cause of such inflammation is shown in the fact that "if an intestine be wounded it pours out its juices into the abdomen." In this same chapter Mr. Bell has certainly cited numerous cases in which these wounds were not mortal, in which no effusion or inflammation had occurred, and he has ably and forcibly shown the modes by which the mortality has been obviated by nature. Still he regards such examples as exceptions to the general law.

"In one short sentence we announce the general principles of such wounds, — in one short and general prognosis we declare them to be fatal; we thus bestow but a few moments on their general character, while we spend hours in marking their lesser varieties, and in recording all the accidents and chance causes, collecting evidence about hair-breadth escapes, till we almost lose sight of the general principle which proves such wounds to be mortal. This confusion must be peculiarly felt by a diligent student, who, the more he reads, the more he wanders, finds answers at the groin, and miraculous recoveries in every book, and reads of cures till he forgets that there are dangers."

Now Mr. Travers has proved recovery from a punctured wound in the intestine not to be a miracle. He has proved what Mr. Bell supposed to be a frequent process, to be a constant one, and in so doing we are confident that he has added much to the just and persevering treatment of such cases. His details are too minute to be extracted, but we think the dissections, after several of his experiments, highly important as well as curious, and we consider his practice to be rational as well as bold.

A curious fact is shown in regard to one species of a ruptured intestine, namely that in which no wound occurs in the fibres. Such injuries generally admit of effusion into the abdomen, and are consequently fatal. Of this fact the following simple solution is given by our author.

"I should explain it by the difference in the nature of the injury which the bowel sustains when perforated by a sword or bullet, as in the one case, of burst or ulcerated as in the other. A rupture by concussion could only take place under a distended state of the bowel, a condition most favourable to effusion, and from the texture of the part, a rupture so produced would seldom be of limited extent. The process of ulceration by which an aperture is formed commences in the *internal* coat of the bowel, which has always incurred a more extensive lesion than the peritoneal covering. The puncture or cut is merely a solution of continuity in a point or line, the ulcerated wound is an actual loss of substance.

* Discourses on Wounds, part 2, page 59.

† Inquiry, page 75.

The consequence of this difference is, that while the former, if small, is shut up by effusion from the cut vessels, or, if large, is nearly obliterated by the full exersion of mucous coat, the latter is a permanent orifice.*

These writers have strangely overlooked an effect of wounded intestine noticed by Haller, and fully confirmed by the experiments of our author; the above named eversion of the mucous coat.

"If a gut be punctured, the elasticity of the peritoneum, and the contraction of the muscular fibres open the wound, and the vulnus peritoneus contorms a sort of hernial protrusion, and obliterates the aperture. If an incised wound be made, the edges are drawn asunder and reverted, so that the mucous coat is elevated in the form of a fleshy lip. If the section be transverse, the lip is broad and bulbous, and acquires tumefaction and redness from the contraction of the circular fibres behind it, which produces, relatively to the everted portion, the appearance of a cervix. If the incision is according to the length of the cylinder, the lip is narrow, and the contraction of the adjacent longitudinal, resisting that of the circular fibres, gives the orifice an oval form. This eversion and contraction is produced by that series of motions which constitutes the peristaltic motion of the intestines."†

This effect it is of importance to bear in mind.

In order to ascertain how great a degree of injury nature might be able to repair, Mr. Travers divided the small intestine of several dogs, to the mesentery. The result was death in all, from effusion of aliment if the animal had been recently fed, and if it had lasted for some time from inflammation attended by separation of the ends of the divided gut, eversion of the mucous coat, and obliteration of the cavity partly by this eversion, and partly by a plug of coagulated chyle. The same effects followed a division of three quarters of the cylinder. When half the canal was divided, a curious pouch was in one instance formed round the injured bowel.

A pouch resembling somewhat the diverticulum in these animals, was formed opposite to the external wound, on the side of the peritæum, by the living peritoneum, on the other side by the mesentery of the injured intestine, that intestine itself, and an adjacent fold, which had contracted with it a close adhesion. The pouch, thus formed, and insulated, included the opposite sections of the gut, and had received its contents. The tube at the orifice was narrowed by the half eversion, but offered no impediment to the passage of fluids."‡

* Inquiry, page 46.

† Ib. 85.

‡ Ib. 98.

Though our author did not succeed in producing this pouch in more than one instance, he yet conceives it probable that in accidental wounds, when the bowels remain *in situ*, and are uninjured by being drawn out and handled, this effect may more frequently occur. "Whether this kind of sac would have allowed the intestinal action to have continued, our author professes himself unable to decide. He regards retraction and eversion as the evils which prevent the healing process: these occur to a great degree, the injured parts cannot unite from distance, and the mucous membrane is indisposed to adhesive inflammation. In consequence he conceived that if the canal could be perfectly divided by means which yet prevented retraction, the same consequences would not ensue. To put this opinion to the proof, a ligature was drawn tight round the duodenum of a dog, which at first was indisposed but afterwards perfectly recovered, and was killed. The canal was indented but continuous, though the mucous coat was deficient at the point of division. A longitudinal incision one inch and a half in length was spontaneously repaired by adhesion.

The foregoing observations chiefly relate to wounds beyond the hand of the surgeon. Another class of injuries consists of those in which the wounded bowel protrudes, or effuses its contents immediately underneath the external wound, through which they pass. Numerous instances of this kind are on record, and great doubts have been entertained as to the proper mode of treating such complicated cases.

It has been taught upon high authority, that where an intestine is lying at the bottom of an external wound pouring out feces, it ought to be laid bare, and the wound stitched. By an abundant record of cases and experiments, it is here shown that this process can never be required, for the same quick union which closes a wound inflicted deep in the belly, will, in the above noticed instances, consolidate the edges of the wound with the adjacent parietes. Effusion into the abdomen is thus effectually precluded, and in process of time the external wound will generally close over the intestine, and the feces pass by the natural outlet.

Those who have witnessed this rapid adhesion, have applied its principle to slight wounds which are absolutely within our power, and have directed that such should either be returned simply, or reduced with a ligature on the mesentery to retain them in contact with the external opening. Cases have occurred in which each of these practices has been followed, and in which the injury has been repaired by

cicatrix, or by the more tedious process of granulation. In other instances, even slight punctures and cuts have been surrounded by a ligature, or stitched, and have done equally well. As, therefore, there is a possibility in simply returning the injured gut, that effusion may occur, and as in keeping the external orifice open by the use of a ligature on the mesentery, a more tedious process is established, there seems to be no adequate reason why this chance, or this delay should be encountered, as it does not appear that the ligature on a simply wounded and uninfamed gut, produces any additional irritation, though it adds to the security.

"The grand objections to the practice of returning a wounded intestine without a suture are—the heavy drain upon the system, if, as is probable, the drain be alimentary;" in cases where the wound is large and effusion has actually occurred, "the irritation occasioned by the continual discharge; and the tardiness of the healing process—the danger of future impediment to the free course of the matters, from a permanent angularity of the adhering fold, or the encroachment of the parietes upon the tube in healing; and lastly, of future prolapse, and even of artificial anus, from the actual deficiency of the paries intestinalis, corresponding to the extent of the cicatrix."*

When therefore we have the bowel absolutely in our hands, we can readily close it. When the orifice is very small, it may be surrounded by a ligature, but where it is large considerable doubts have arisen as to the proper mode of effecting the closure. Various experiments have been made to ascertain the point, and much contrariety of opinion has existed. We have been advised, where the whole cylinder has been severed, to introduce the upper within the lower portion of intestine, and to sew them in that situation. This is not, as Mr. John Bell asserts, "an untried experiment." It was tried long ago with success by Ramdohr, and has been often imitated in experiments since, though not with equally fortunate events; the chief difficulty being to introduce one portion of gut within the other, on account of the contraction and eversion with which each end is affected. In cuts of greater or less extent some have recommended the use of a single stitch, others two or three interrupted stitches, and others again have preferred the uninterrupted suture. A large proportion of writers direct that in each of these methods, but more especially in the two former,

a ligature on the mesentery should confine the returned bowel to the external wound.

Mr. John Bell, who is at all times so ready to reprehend his immediate competitor for writing fearlessly on what he had never seen, says,

If it should happen that a gut is cut fairly across in all its circle; the mesentery still has its hold upon each end of the divided intestine; and the two ends of the intestine can never be far separated from each other, nor can the one end be introduced so far within the other as to make the double row of stitches round and round, the one row distant from the other an inch. It is not by this thorough stitching that such a gut is to become sound, it is only by adhesions, and by two adhesions taking place at the same time. The two ends of the gut may be made to adhere to each other; and the prudent way of favouring these adhesions, is to introduce the one piece of intestine a little way within the other, and make one single stitch in that part of the circle which is farthest from the mesentery, and then draw the gut by means of that thread close up to the wound, and thus it will probably happen that the mesentery will keep its side of the circle firm, that the stitch will keep the opposite side firm, that the gut being drawn by the thread and pushed from behind, and flattened by the universal pressure within the abdomen, the double adhesion may take place, viz. of the surfaces of the intestines to each other, and of the wound of the intestine to that part of the inner surface of the belly where it is open and inflamed by the outward wound.

Mr. Bell has cited no authorities for the above assertion, and he probably never knew an instance at all resembling that which he has supposed. Those who have made the trial have found that it is nearly impossible in all cases, and quite so in by far the greater number, to introduce one end of the divided gut within the other even a little, by reason of that eversion of the mucous coat, and contraction of the gut of which Mr. Bell does not seem to have been aware since he now speaks of it: it has been also found that the single stitch affords no effectual security for the adhesion. It does not require the accuracy and minute research of Mr. Travers to oppose the futility of these declarations. Dr. Smith of the Philadelphia Medical Society sewed wounded intestines in dogs as neatly as possible according to this plan, and invariably found it to fail, though he has unaccountably omitted to mention the minute particulars which occasioned the failure. Mr. Travers has proceeded much further, and with more

scientific research, and has found union prevented by the eversion of the mucous coat, which neither assumes the adhesive inflammation, nor seems disposed to granulate. When an intestine then is extensively wounded, and a single suture only employed, it does not prevent retraction and eversion, and consequently does not prevent a fatal efflux of its fecal contents. We cannot refrain from quoting those decisive facts, which place this question finally at rest.

"I divided the small intestine of a dog which had been for some hours fasting, and carried a fine stitch through the overled edges, at the point opposite to their connection with the mesentery. The gut was then allowed to slip back, and the wound closed. The animal survived only a few hours.

"*Examination.* The peritonæum appeared highly inflamed. Adhesions were formed among the neighboring folds, and lymph was deposited in masses upon the sides of the wounded gut. These presented two large circular orifices. Among the viscera were found a quantity of bilious fluid, and some extraneous substances, and a worm was depending from one of the apertures. By the artificial connection of the edges in a single point of their circumference, and their natural connection at the mesentery, they could recede only in the intervals, and here they had receded to the utmost. The suture prevented the contraction of the circular fibres, from the obliquity produced by the more powerful action of the longitudinal between the two fixed points. All circumstances therefore combined to facilitate effusion, the obvious cause of the quickly destructive inflammation.

"I increased the number of points of contact by placing three single stitches upon a divided intestine, cutting away the threads and returning the gut. The animal refused food, and died on the afternoon of the second day.

"*Examination.* Similar marks of inflammation presented themselves. The omentum was partially wrapped about the wound, but one of the spaces between the suture was uncovered, and from this the intestinal fluids had escaped. On cautiously raising the adhering omentum, the remaining stitches came in view. Here again the retraction was considerable, and the intervening elliptical aperture proportionally large. On the side next to the peritonæum, however, the edges were in contact, and adhered so as to unite the sections at an angle.

"From these experiments it appears that opposition at a point or points, is as respects effusion, more disadvantageous than no opposition at all; for it admits of retraction and prevents contraction, so that each stitch becomes the extremity of an aperture, the area of which is determined by the distance of the stitches."

As such methods do not succeed, then, what are more effectual? Mr. Askey Cooper and Dr. Thomson have instituted experiments, the apparent object of many of which was to estimate the comparative efficacy of the interrupted and continued suture: and the result has been that each has been successful. Such an issue is perfectly explicable by the experiments of our author, who shows that a cut intestine, deep in the belly, sometimes heals by the adhesion of its edges to each other, like other divided parts, though it is more frequently closed by the union of its edges, when remote from each other, to the neighbouring parts. When the ligature is used, the former of these processes, as he further proves is alone to be depended on, and that to secure its success accurate contact is required. Whatever ensures this contact will be efficient, and provided this object be attained it is indifferent what form of ligature is employed for the purpose. So decidedly do our author's conclusions differ from those of Mr. John Bell, that we think it may not only be amusing but instructive to place them in contrast before our readers.

"I have endeavoured to represent the real condition of a wounded bowel and the easy cure of it, in that simple form in which I have conceived it. I have advised, that one single stitch only should be struck through the wounded bowel, and then drawn also through the wound. And I have ventured moreover to say that if there is in all surgery a work of supererogation, it is this of bowing up a wounded gut. The mechanical and vulgar conceptions of those who believe that a wounded intestine is closed not by inflammation, and the adhesions of contiguous parts, appears to me offensive to a degree which I shall hardly venture to express to you. But it strikes deeper and wider than this, it is not offensive only; it is dangerous; for while I take an interest and find only a pleasant labour in teaching the young surgeon what is right to do, and what is consistent with the simple ways of nature and the economy of the living body, he is seduced by a formal account of most curious and ingenious methods of sewing a gut, and is drawn aside to follow after such puerile conceits, thinking to do more than even nature can do in such a case."*

Another subject of difference has arisen in regard to the mode of disposing of the ends of the ligature after the suture has been made. Mr. Benjamin Bell first pointed out the propriety of cutting the ligature close to the gut; and returning it into the abdomen unconnected with its external wound.

* Discourses on Wounds, Part 2, page 108.

"It is probable whatever suture may be employed, if more than one or two stitches have been passed, that it will be very difficult and even uncertain our getting the ligature away, without hurting the intestines more than we ought to do. I would never advise therefore, with any view of this kind, that the ligature should be left out at the wound; less danger will arise from cutting it entirely away and allowing the stitches to remain. A considerable part of it will fall into the cavity of the gut."

Mr. Bell does not adduce any facts in support of this assertion, but Dr. Thomson, in order to decide the point, made several experiments, the results of which were that the ligatures tied on the outside of the intestine were found within its canal. This fact has been confirmed by the observations of our author, who gives the following solution of the appearances.

"The fact of reparation by artificial connection of the divided parts being established, it remains only that I should point out the several stages of a process, which has not to my knowledge been described. It commences with the agglutination of the contiguous mucous surfaces, probably, by the exudation of a fluid similar to that which glues together the sides of a recent flesh wound, when supported in contact. The adhesive inflammation supervenes and binds down the reverted edges of the peritoneal coat, from the whole circumference of which a layer of coagulable lymph is effused, so as to envelope the wounded bowel. The action of the longitudinal fibres being opposed to the artificial connection, the sections mutually recede as the sutures loosen, by the process of ulcerative absorption. During this time the lymph deposited becomes organized, by which further retraction is prevented, and the original cylinder, with the threads attached to it, are encompassed by the new tunic."

"The gut ulcerates at the points of the ligatures and these fall into its canal. The fissures left by the ligatures are gradually healed up; but the opposed villous surfaces, so far as my observation goes, neither adhere nor become consolidated by granulation, so that the interstice marking the division internally is probably never obliterated."

In conformity with these facts, Mr. T. decidedly recommends the use of a ligature so as to secure accurate contact, the removal of the ends of the ligature close to the knot on the gut, and the careful reduction of the injured part. In all

* *System of Surgery.* Vol. 2. page 128, 7th Edit.
† *Inquiry,* &c. Page 128.

instances indeed of protruded bowel, he strenuously insists on the necessity of its cautious and orderly return in the inverse order of its protrusion, being satisfied that mere displacement acts as a frequent cause of active inflammation in the peritoneum.

The most interesting part of this investigation relates to mortified hernia. It must be sufficiently known to our readers, that an infinite variety of opinions have existed, and do still exist in respect to the proper mode of treating this shocking malady. Of this variety a most interesting account is given in the last three chapters of the present work, which concludes with a detailed statement of that, which the author has been led to prefer.

Littre recommended that the lower portion of the canal should be tied, after excision of the mortified cylinder, and that the upper should be retained at the wound, to form there a permanent artificial anus. La Peyronie unable to distinguish the upper from the lower orifice in one instance, retained them both at the wound which closed over them, and the continuity of the canal was maintained. In other instances, therefore, he followed the same method, endeavouring as much as possible to approximate the ends of the severed intestine, but in these attempts he met with little success. Ramdohr after similar excision, thrust the upper within the lower part of the bowel, and sewed them together. He succeeded in one case; as did also Duverger, who introduced a piece of calf's trachea within the canal. Petit simply dilated the stricture and opened the mortified coats of intestine. In several instances which occurred to him, free incisions into the sphacelated parts were the only operation, and this was successful. Similar events occurred to Gooch, who perfectly accords with Petit, in thinking that the cure of these cases is due more to nature than to art; and that the province of the surgeon should be restricted to the removal of whatever might obstruct her proceedings. Louis objects to cutting the stricture where the gut is adherent; he merely removes the mortified parts, leaving the sound untouched. Where the gut does not adhere, he cuts out a portion of cylinder including the spoiled part, and follows the operation of Ramdohr or of Peyronie. Sharp recommends excision of the sphacelus, the enlargement of the stricture, and the closure of the gut by the interrupted suture. If the latter cannot be effected he unites the divided intestine to the wound.

" Richter, whose treatise on hernia discovers a profundity of research, and an extent of personal observation in his time unparalleled, is elaborate in his discrimination of the several stages of gangrene, and the treatment which they respectively demand. If a suspicious spot appears upon the surface of a strangulated gut, he reduces it with a ligature of the mesentery. If it penetrates the coats of the bowel, and the intestine adheres, he dilates the ring; but instead of reducing the gut, leaves it in the sac. If the gut so affected is loose and unadherent, he fixes it by a ligature on the outside of the ring, and cuts away the dead part, leaving only a sphacelated margin to be separated by nature. On the second day he reduces it, taking care to place the opening exactly behind the ring. If only a part of the circumference of a gut is strangulated and in a state of gangrene, he leaves it wholly to nature, refraining from the incision of the stricture. If many small spots and small openings appear in the strangulated intestine, he adopts the same practice; but if they are extensive as well as numerous, he excises the whole piece, and treats it as if totally gangrened. When this is the case he excises the dead part, and if unadhering, confines the sound extremities by a ligature to the mouth of the wound. He then clears the canal by means of a purgative and a glyster, and leaves the ultimate disposal of the parts to nature."*

Pott confines a partially mortified intestine by a ligature on the mesentery to the wound; but excises a completely gangrenous cylinder; and unites the ends by suture, confining the returned gut to the parietes. If the ends cannot be brought together, he confines both to the wounds. Chopart, Desault, and Sabatier return small spots as just mentioned, but open the larger spots. After describing the symptoms of mortification in a strangulated hernia Mr. Cooper says,

" The hernia now sometimes returns into the cavity of the abdomen without assistance, and the patient survives but a few hours, but sometimes the skin over the tumour sloughs, the intestine gives way, and the feces being discharged at the opening, the symptoms of strangulation soon after cease. When this happens, the intestine contracts adhesions to the hernial sac. The portion which has been mortified sloughs away, and an artificial anus becomes established, through which generally during the remaining part of the patient's miserable existence, the feces are constantly discharged. However it sometimes happens that, when the intestine has sloughed, that a reunion takes place of its extremities, the extreme wound

gradually heals, the artificial anus is closed, and the fœces resume their natural course.”*

“ In performing the operation for strangulated hernia, where the intestine is mortified, the appearance which it assumes, is that of a dark purple, or leaden coloured spot, or spots, which readily break down under the impression of the fingers. The other part of the intestine is of a chocolate brown colour, which has been often mistaken for mortification, but its colour and its firmness prove that it has not advanced to that state. Every part of the surface of the intestine is covered by coagulable lymph of a brown colour.”

“ If a small hole only has been produced, the intestine should be returned into the abdomen, excepting that portion of the cylinder in which the hole exists. A needle and ligature should be passed through the mesentery at right angles with the intestine, to prevent its including the branches of the mesenteric artery, which supply that part of the intestine, and then through the mouth of the hernial sac; and tying the threads the intestine becomes confined to the mouth of the sac, and the fœces pass readily from the opening by the wound, but will in part take their course by the rectum. As granulations arise and the wound becomes closed, the opening in the intestine is gradually shut, and an artificial anus is effectually prevented.”†

“ When the whole cylinder of the intestine is mortified, it is necessary to proceed very differently. Then the mortified part of the intestine should be cut away, and the ends are to be brought in contact, and confined by means of four ligatures.”‡

“ If the intestine has a large opening in its side occupying one half of its cylinder, it is, if left to nature, sure to produce an artificial anus. Sufficient of the intestine is not then remaining to conduct the fœces in their proper channel. The wound heals so as to form an orifice sufficiently large to prevent the escape of that portion of the fœces which the intestine cannot convey, and if it heals further than to that point, abscesses frequently form, which, when they burst, discharge, with the matter, a considerable quantity of fœces.”§

“ As it appears, therefore, that there is little probability of relief to the patient, when this state is once established, the surgeon should attempt, by all the means in his power, to prevent its occurrence.

“ The means which will occur to the mind as being most likely to effect the object, will probably be to make an uninterrupted suture upon the opening in the intestine, but this treatment would leave the intestine with only half its cylinder, the fœces will not

pass, they will either soon burst the stitches from the wound, or it will become necessary for the surgeon to cut them to unload the intestine, and prevent the death of his patient.”*

“Instead of endeavouring to maintain a diminished canal by sewing the intestine longitudinally, the surgeon should not only cut out the mortified part, but all the remaining part of the cylinder of the intestine, and then approximating the extremities of the intestine, he should endeavour to unite it in the manner in which a transverse division of the intestine is treated, by making four sutures upon it, and confining it by means of the mesentery to the mouth of the hernial sac.”†

The treatment recommended by Lawrence is “to dilate the stricture, and to leave the subsequent progress of the cure entirely to nature. The sloughs,” he adds, “will be cast off; the ends of the gut are retained by the adhesive process in a state of apposition to each other, the most favourable to their union, the wound contracts and often completely closes, so that the continuity of the alimentary canal is perfectly re-established. The interference of art can only be prejudicial in this process. When we consider the loose state of the intestinal canal, in its natural condition, we find a difficulty in conceiving how its continuity can be restored, after considerable portions have perished: yet indubitable proofs of this fact exist, and induce us to place confidence in the resources of nature.”‡

To this statement he afterwards adds, “perhaps the only step, which would be justifiable, is that of making an incision in the sphacelated part; this will promote the evacuation of the alimentary canal, and afford considerable relief.”§

When reviewing Mr. Lawrence’s first edition we remarked on the passages above cited, “it remains for the candid observation of those who have the opportunity to determine, whether in cases where patients survive the operation, the removal of the gangrenous intestine by the scissars is, or is not, an objectionable practice; and whether it is giving a fairer chance of recovery to second the effects of the constitution during the process of separation, while we facilitate by a free opening the evacuation of the alimentary matters.” Mr. Astley Cooper, in the month following that of our publication, operated according to this simple method, and in the appendix to Hey’s

* Cooper on Hernia, Part 1. Page 39. † Id. 40.

‡ Lawrence on Hernia, 1st Edit. Page 204, 2d Edit. Page 283.

§ Id. 1st Edit. Page 203, 2d Edit. Page 283.

last edition of his *Surgery*, he published the case, which was completely successful, and then subjoins the following directions, "as an answer to a query in the *London Medical Review*."

"From the foregoing history it appears that the proper treatment of a mortified intestine in strangulated hernia, consists in the two following circumstances."

"1st. In dividing the stricture, so as entirely to remove the cause of strangulation; and

"2dly. In making an opening into the intestine so as to give a free outlet for the discharge of the accumulated feces in the intestine within the abdomen. If the stricture only is divided, the constipation, hiccough, and vomiting continue, but if the intestine is opened, the patient in a few hours becomes relieved of those symptoms."*

We have thus laid before our readers what we believe to be a pretty fair, though a hurried sketch of the most prominent oppositions in opinion, which have existed in respect to this very, critical point. With such a puzzle of discordant facts and authorities before him, our author has proceeded to investigate the subject minutely, and to adopt, if possible, a rational system of practice.

He states in the first place that strangulation is twofold, viz. that which checks circulation, as well as the transmission of aliment, through the strictured gut; and that which simply impedes the intestinal function. He affirms that where the perfect strangulation occurs, it is rapid in its progress to gangrene, the obstructed part of the canal within the abdomen remaining uninfamed; and that the less firm constriction, gives rise to a more protracted state of suffering, with a tendency to general peritoneal inflammation, before the strangulated gut mortifies. This he advances as a general though not an universal truth; and he therefore maintains that abdominal inflammation proceeds, not from the local injury of the strictured part, but from obstruction to the action of the bowels.* This obstruction, he argues, continued long from any cause is equal to produce the effect; but the tighter the stricture on a ruptured gut, the sooner nature is likely to relieve herself, by effusing the contents externally, or into the hernial sac.

He next observes that it is not an object to ascertain, as

* Hey's *Surgery*, Appendix to the last edition.

several have asserted, whether the intestine do or do not adhere to the parietes, for that in every case of strangulation, and consequent gangrene, such a degree of inflammation must have proceeded as to have ensured a perfect adhesion of the gut at the stricture.

Almost all writers on this subject have expressed surprise at such an union of the ends of a mortified intestine as to maintain the continuity of the canal, after a foot or more has been cast off. Mr. Travers therefore points out, that whatever of intestine may be lost, still the two extremities are tied down close to each other at the mouth of the sac, adhering all round to the stricture, and by one part of their surface to each other.

"In the ordinary situation of hernia, the portions of intestine embraced by the stricture occupy a position nearly parallel. Their contiguous sides mutually adhere; in the remainder of their circumference, they adhere to the peritoneum lining or forming the stricture. The existing adhesion of the contiguous sides, strengthened by the adhesion of the parts in contact, insures a partial continuity upon the separation of the sphacelated part. The line of separation is the line of stricture. It commences on that side of the gut which is in direct contact with the stricture. As the separation advances, the opposite adhering sides may perhaps recede somewhat, and a little enlarge the angle of union. But it is ever after an angle; and where the peritoneum is deficient, the canal is simply covered in by granulations from the cellular membrane of the parietes coalescing with those of the external or cellular surface of the peritoneum."*

In consideration of these facts, and of a conviction that the ligature on a strangulated gut, or on that portion of intestine immediately connected with the strictured part, is less likely to produce adhesion than inflammation followed by ulcer, our author decidedly prefers the more simple to the more operative modes of proceeding.

Where there is no absolute sphacelus, or only one or two small spots, as these are readily cast off either outwardly or through the canal, he advises the reduction of the bowel, and the use of fomentations, glysters, and laxatives.

"Where the gangrene is general or complete, and the matters are discharged through an opening or openings in the gut, a free incision of the sac is all that appears to be required. If the spoiled gut is extensive, the surgeon may use his own judgment concerning the removal of the sloughs, for the sake of cleanliness.

* Inquir., &c. Page 360. Mr. Lawrence has added to his second edition a somewhat similar account of this process.

Where, under the same state of disorganization, the gut has not ruptured, and the process of throwing has not commenced, to divide the gut, and to use the stricture, instead of admit of the escape of the contents.

Where the rupture is small, and the symptoms indicate the progress of the stricture, under the patient is, strictly speaking, in the hands of the surgeon, and upon the rupture by a free incision, there is no doubt, but that the fecal matter should follow the rupture, and not long remain in the gut.

But, either thus act on the supposition that the inflammation is confined to the strictured part. He cannot, indeed, be absolutely sure of this, but by such conduct he gives his patient the fairest chance of recovery. The great object is to divide the intestine, if beyond the stricture they are found, and division is the most secure mode of preventing inflammation; and if this has already begun in the belly, no other method could possibly be employed to arrest its progress, nor, and any means without this be efficient for the purpose. He concurs, it to be highly prejudicial to sever nature's ligature to affix his own, by drawing out the sound intestine; and he is even extremely cautious in relaxing the stricture by which the mischief has been caused.

The division of the stricture where no intestine is in a state to receive dissections, is indispensable; but the object of the division where an intestine is mortified is to me unintelligible. If it is a septo-membranous stricture, the resistance which made it so is taken off by the collapse of the included gut, and the patient, and experience, no greater relief from the division than the part itself. Nature has anticipated the surgeon; being unable to dilate the stricture, she has accommodated herself, as her custom is to the circumstances of the case, and accomplished by other means the object of the operation. The gut has been liberated at the expense of the stricture.

Such is the general rule which like other general rules is not without exception. For Mr. T. afterwards says, after dividing the strictured gut, if the stricture should still be found to exist, the matter, which will seldom be the case, a moderate quantity of it will be removed.

These operations then, do not seem to me to be very different from the operation of Mr. T. who has presented the case.

The following case is a very interesting one.

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says our author with manly and honourable candour, "who has distinguished himself by an excellent *Treatise on Hernia*, is due the credit of having revived the opinions neglected or forgotten of the illustrious Petit."

For the after treatment of the case, Mr. Travers is very minute, and as we conceive, peculiarly judicious in his directions. We dare not however, venture to trespass any longer on the patience of our readers by quotation. He proceeds on the principle that the lower portion of the canal should be assisted to regain its functions before any attempts are made to close the external wound; a practice, we need hardly say, directly the reverse of that generally adopted. When such cautious treatment is pursued, Mr. T. maintains that artificial anus is a very rare consequence either of wound or mortification.

Several interesting cases are given to shew that a state of intestine after strangulation frequently occurs, which though short of gangrene forms a perfect barrier to the transmission of its contents. An operation therefore, by which such an intestine is returned into the belly is fruitless; the patient dies from continued obstruction, and on examination of the body there appears no inflammation in the general cavity, but the injured gut is found precisely in the state in which it lay in the sac: this state is that of high discoloration with indentation left by the stricture. The part seems to have been paralyzed, and though it would recover its power to act in time, yet the system is unable to endure the intermediate obstruction. In this case we are directed by our author to return the bowel, for it is included in that species of hernia in which "disorganization has not commenced." We presume however, that other directions would have been given if the nature of the injury could be detected previously to the return of the gut. This however is impossible, for no change of colour can suffice to indicate such a state. The change of colour indeed, according to our author, however great it may be, is an equivocal sign of death in the bowel; though the loss of lustre affords an unerring proof of it.

The volume concludes with several curious experiments imitating the processes of strangulated hernia; and with an

highly interesting case, detailed by the patient, in which a strangulated, and apparently mortified intestinal rupture, admitted of spontaneous cure without external discharge.

Our readers will perceive that in the present instance, we have been studious to lay before them rather an analysis of the work before us, than a criticism on it. The enquiry is in truth so purely experimental, that it can only be reached by direct facts. In giving this analysis, we have also been anxious to present as full an account as possible of the general subject, consistently with our limits, that our readers might be able to estimate at one view, what has been done and by whom. This too we conceived to be the most satisfactory mode of exhibiting the additions which have been made to our knowledge by the investigations of Mr. Travers.

We cannot conclude however, without a decided declaration of our belief that the present volume must become a standard authority upon the subject to which it relates, not merely from the mass of information collected in it, but from the result which it displays of numerous and important, original inquiries, and from the sound sense and discretion, by which these have been guided. Our author has shewn a degree of zeal and activity which obstacles have served only to heighten; and a directness and soundness in reasoning which even his enthusiasm has not tended to mislead.

The writer of the work before us may by some be considered an unsparing and remorseless slayer of brutes. That such slaughter is always defensible we do not assert; and we admit that it can only be defended by clear and great good resulting from it. All must abhor cruelty proceeding from malice or caprice; all will readily allow that for the more perfect gratification of our appetites, we are not authorized in tormenting inferior animals; and it may with equal truth be declared that the design of procuring scientific amusement, is a motive no less inadequate to justify us in giving them pain. Whether the pleasure procured be that of the palate, as from roasting lobsters or crimping cod, or that of satisfied curiosity, as from viewing the pulsation of the heart, or the absorption of chyle in living creatures, the object is alike selfish and alike unproductive.

It is not therefore the mere name of science that will sanction such acts; and though it is true that man, considered as a race, has always a selfish object even in fiscal experiments on living animals, an object to benefit the race which makes

them with little if any regard to the service of that which endures them, yet, at the advantage he gains, we conceive that he has a strong plea in his justification. In knocking down an ox for food, we are sanctioned by general practice: and when we inflict pain and death on dogs to avert pain and death from man, we act on a principle precisely similar, and may plead self-preservation in excuse. It is the urgency of the case which makes the defence; and in fact it must be allowed that those who save more suffering than they give, are benefactors to the cause of life. Each act however, must be measured by a strict and jealous rule, and by such our author must be judged. In balancing the account we believe that few extensive experimental enquirers will be found to have stopped precisely, at that limit which bounds their utility.

ART. VI. *An Examination of the Mineralized Remains of the Vegetables and Animals of the Antediluvian World, generally termed Extraneous Fossils.* By James Parkinson, in three Volumes. Volume 3, containing the Fossil Star-fish, Echidn, Shells, Insects, Amphibia, Mammalia, &c. 4to. pp. 456. London. Sherwood, & Co. 1811.

THE first and second volumes of Mr. Parkinson's work, in which he treats of the mineralized remains of vegetables and zoophytes, can scarcely be regarded as affording matter suitable to this Review. We shall therefore only casually notice them, and confine our attention chiefly to the volume before us; which contains such brilliant and surprising discoveries in comparative anatomy, as well as in geology, that in our estimation we cannot perform a more acceptable service to the reader, than by presenting him with a brief analysis of its contents.

It must not be supposed, however, that the discoveries alluded to have been made by Mr. Parkinson. He has, with considerable industry, extracted them from various memoirs by Cuvier in the *Annals of the Museum of Natural History* at Paris. The *Memoirs of Lamarck* on the fossil shells of the environs of Paris in the latter work, have likewise afforded him a large stock of materials, and a new classification of

those objects. To these abstracts he has added such observations as he has had an opportunity of making upon numerous specimens in his own collection and the collections of his friends, with illustrations from various authors. The volume concludes with a view of the reliquia in their connection with the strata that compose the superior crust of the earth, in which they are imbedded; being an attempt to reconcile the phenomena with the Mosaic history of the creation and deluge, which will doubtless be considered as the most valuable part of the work.

In the execution of our proposed analysis we shall offer such remarks, particularly upon the manner in which the abstracts of Cuvier's memoirs have been made, as the different objects treated of in them may incidentally suggest.

The study of extraneous or secondary fossils has been much retarded by the mistakes that have arisen concerning the real nature of these substances, and consequently by the want of a precise and distinct language for the purpose of designating them. Thus fossils which we now know to have been the teeth and palate bones of fishes, were denominated, by the learned, *Ornithoglossa*, *Gracurhynchi*, *Rostraginee*, *Plectonites*, &c. from a supposed resemblance to the tongues, beaks or spurs of birds; and others *Bufoites*, *Batrachites*, and *Crapaudines*, from a notion of their having been formed in the heads of serpents, toads or frogs. And with respect to some other fossils, as the ammonites, although those who were most capable of judging in these matters did not yield entirely to the vulgar opinion of their being petrified serpents, or like the monks of Whitby, add superstition to ignorance, and tell

“How of thousand snakes each one
Was changed into a coil of stone
When holy Hilda prayed,”

yet no rational conjecture respecting the origin of these bodies was formed until by the investigations of Lister, Buttner, Scheuchzer, but chiefly of Breyn, it was fully ascertained that they were the mineralized remains of a camerated shell, resembling the nautilus, the recent analogue of which is unknown. But Lamarck has gone much farther towards a knowledge of the real nature of these fossils. Mr. Peron having brought from the coast of New Holland the animal inhabiting *Nautilus spirula*, Linn. great light has been thrown

upon the subject. The animal in question has a conformation analogous to that of the cuttle-fish, and carries a shell, which instead of enclosing the whole animal is merely enclosed in the posterior extremity of its body, being in great part exposed, and enveloping in the last chamber a portion only of the body of the animal to which it belongs. The adhesion of the shell to the animal is supposed to be effected by means of a tendinous chord inserted at the extremity of a siphuncle. Lamarck views the fossils termed *Lenticulites*, *Nummulites*, *Discorbites*, *Belemnites*, &c. in the same light. Mr. Parkinson however, goes even beyond Lamarck, and explains the final cause of this peculiar appendage to the animal. He thinks that the numerous vacant cavities served the purpose of so counterpoising the weight of the shell and the animal, as to enable the latter to raise, or sink, itself at pleasure, in consequence of an alteration in the specific gravity of the mass produced by occasionally filling the siphuncle with air or perhaps with water. Looke ascribed a similar property to the siphuncle of the nautilus, which being partly membranous he considered as dilatable or compressible at pleasure like the air bladder in fishes.

But it was not merely by confounding the forms of these objects that a knowledge of their real nature was so long concealed. The most absurd opinions have been entertained with regard to their production. Some supposed that they were generated in the bowels of the earth, and Dr. Plott actually ascribed their figures to the operation of certain plastic powers, with which certain saline bodies were endowed, agreeable to the philosophy of Cudworth, which ascribed the formation of all animals and plants to certain plastic natures, independent of nature in general. Ilwyd combated the *vis plastica* of Plott, and supported the doctrine of their production from the semina of fishes, &c. raised with vapours from the sea, and conveyed by clouds and rain into the superior strata and recesses of the earth. "Hoc ut paucis expediam: dico suspicari me, qui ex mare fecuntur vapores, et forma pluviae aut nebulae superiora terrae strata ad requisitum altitudinem pervadunt, Testaceorum, et multorum piscium seminio saepius impregnari; atque exinde, pro data semini portione et pro matricis congruentia, formari alias pisces integros, alias eorum tantum lineamenta; alias dentes, mandibulas, vertebrias, aut alia ossicula; atque inter crustacea, nunc integra animalia; quandoque eorum articulos; inter Testacea, nonnunquam

univalvia, et sæpius bivalvia."* The more rational conjecture of Woodward, who attributed their present situation to a general deluge, was rendered of less effect, in opposing these notions, from his having attributed to the waters of the deluge an almost universal solvent power; by which he supposed the rocks and mountains to have been melted down, and the admission of these substances into their internal parts to have been effected; not considering that by the same power these bodies must have entirely lost their proper figures.

These illusions were at length dispelled by the more rational inquiries of Lister, Scheuchzer, Rosinus, Bruckman, &c. The former of these by his publications afforded the student an opportunity of comparing fossil shells with their recent analogues, by which an accurate judgment of the real nature and origin of these bodies, could not fail to be produced. Rosinus's examination of the *Lucrinus* was so ably conducted, that it may still be regarded as a model for all similar researches.

In order to facilitate the advancement of any branch of science a precise and distinct language free from all ambiguity and all admixture of theory is of the greatest consequence. Such a language does not belong to the science of which we are treating: indeed the science itself has not a name, by which it can be properly characterised. *Oryctology*, which has been adopted by Mr. Parkinson, after some continental writers, implies the knowledge of all substances that are dug out of the earth, and is therefore inapplicable. *Pes-siology* has the same meaning, but being compounded of two languages there are likewise philological reasons for rejecting it. We are obliged then to have recourse to a periphrasis, and the study of *extraneous or secondary fossils* appears to be the best that has yet been suggested. Both the epithets however contained in it are objectionable. As to the first proposed by Sir John Hill, it is perhaps admissible while the body retains its primitive form, and its original constituent principles; but when its primitive form has entirely disappeared, and scarcely an atom remains in the original state of combination, it becomes so assimilated to its matrix as no longer to admit the application of an epithet denoting an origin foreign to the mass in which it is found. The second is preferred by Mr. Parkinson. Under the *SECONDARY Fos-*

SILS (*Transubstantiata*, Linnæi) I place those substances, which bear indisputable testimony, in their structure and form, of their having existed in an organized state; and which are therefore known to have had an animal or vegetable origin; but which have afterwards entered into and become subjects of the mineral kingdom.

We object to it on the score of ambiguity; for it seems rather to designate such mineral substances in general as are of inferior value, than those bodies to which it is applied in this definition. The term *Reliquia* has been proposed and employed by Mr. Martin. But as it is suggested by the theory which attributes all these phenomena to the operation of a general deluge, and may likewise be employed to designate the inorganic as well as the organic remains of a former world, there are sufficient grounds for rejecting it. Mr. Parkinson seems to have been fully aware of the importance of a correct nomenclature in this his favourite study; as appears in the following passage, which we extract from the second volume of his work.

"It is also necessary to make a few remarks respecting the vocabulary of oryctology. This science must be acknowledged, is no little advanced in this country, to have obtained a full and correct nomenclature. The restricted knowledge we possess respecting many fossils is one considerable cause of the little progress which has been made in this respect, added to which is the circumstance of the English writers on these subjects having generally employed unchanged, the several terms which have served to designate these substances in the Latin tongue."

"The English termination *lito* which directly proceeds from the Latin termination *lithos* (Greek $\lambda\theta\omicron\varsigma$) implying a stony nature, appears to be sufficient if added to the name of any substance, to point out its having sustained the petrifying change, thus corallite conveys the idea of a petrified coral. But in some instances it will be found that brevity and euphony (supposed) will demand a little alteration in this termination, from its not being always capable of easy adaptation to the last syllable of the name of the substance which is intended to be described, as having undergone the particular change. In these cases, both in the Latin tongue and the French language, the termination *osa* has been employed to denote that the substance spoken of has undergone the process of lamination. By the employment of one or other of these terminations I hope to be almost always enabled to clearly designate the petrified substance with the least possible change of repeated terms."

From the principles set forth in this passage we expected to find in the volume before us, rather more precision with regard to nomenclature than actually appears. In the first place Mr. Parkinson has given the characters of shells which have never been found in a fossil state, a circumstance that may justly be regarded as irrelevant to a treatise on the organic remains of a former world. Many other shells found only in a fossil state have names not ending in *ite* as *Orthocera*, *Lituola*, *Diocras*, &c. We wish he had fixed on some other word to designate the Swiss fossil shells, which he has named *Trigonellites*; there being already a *Trigonia*, so named from its form, of which he has described several fossil species, likewise without the termination in *ite*. A more diminutive size could not suggest the name of this new genus, as the two species represented are larger than some of those which belong to the genus *Trigonia*. We approve of the classification adopted from Lamarck, but do not recollect that this naturalist, in his enumeration of the fossil shells found in the environs of Paris, has gone so far out of his way, as to describe genera of which none of the species are properly objects of his undertaking.

This volume commences with the starfish and echini, which, had Mr. Parkinson followed Cuvier's classification, should have appeared in the second volume with the zoophytes; but he prefers in this instance the arrangement of Linnæus. Cuvier, from a better knowledge of their organization than Linnæus possessed, places these animals in a new class composed chiefly of the Linnæan order zoophyta of the class vermes. *Asterias* and *echinus* have certainly no resemblance to plants which the name of the class implies, but having in their soft parts an organization totally distinct from other genera of the Linnæan order mollusca, and perfectly corresponding with the order zoophyta of the same author, Cuvier has done right in constituting a new class, although it cannot be denied that the name zoophyta, for the reasons stated by Mr. Parkinson, is rather objectionable.

The fossil star-fish is rare. The echini are rather abundant, and the greater part of them have no recent analogues that are known. To these succeed the shells, and the following reasons are given for the adoption of Lamarck's classification.

"Notwithstanding the great degree of judgment displayed by the illustrious Linnæus, in his systematic arrangement of shells, it does not appear to be proper to adopt his divisions in the present work. It must, I believe, be admitted, that many of his genera

are too comprehensive, added to which, since the forming of his classification, several shells have been discovered, possessing characters which will not allow them to be placed under any of his genera. The latter circumstance has indeed taken place to such an extent with respect to fossil shells, as to have rendered the introduction of a new classification altogether necessary. This task the celebrated Lamarck has accomplished with such ingenuity and care, as to give him a strong claim on the gratitude of every lover of science, and he is entitled to be ascribed, he has, by his classification, secured the admission of all those shells which are found in a mineral state. The part of Lamarck's labours commences in *Les Animaux sans Vertèbres, Naturelle, tome I, p. 308*; and is continued through the succeeding volumes.

It might be imagined upon reading this passage that the memoirs to which Mr. Parkinson alluded contain a general classification of shells, whereas in them Lamarck has merely given the characters of those genera and species which are found in a fossil state in the environs of Paris. In the fifteenth volume of the *Annales* he commenced his general classification (*Determination des Espèces*) with the genus *Conus*, adding at the end of the recent shells belonging to each genus those species which are found in a fossil state; the greater part of which we observe have no recent analogues. *Conus*, *aperta*, *ovula*, *oliva*, and *voluta*, are the only genera that appear in the numbers hitherto imported.

Without entering into a particular examination of this part of the work, we shall merely notice a few errors into which Mr. Parkinson seems to have fallen, partly from that propensity to decide upon insufficient proof so common to persons engaged in these pursuits, and partly from want of more illustrative specimens.

The Bradford fossils, described p. 999, and figured pl. M. under the name of *Lyculina*, do not in our opinion belong to that singular genus, the character of which, as given by Lamarck is *testa imbricatim, equivalvis, hians, subdentatim inclusa. Pubus testaceus, clavatus, festum continens, Antheostori assertus*. The Bradford fossils it is true have a calcareous covering, which in some specimens bears a resemblance to the testaceous lime in which the *Lyculinae* are included; but the covering of the former is never testaceous, still not open at the narrow end, nor has the rotula been observed in any of the specimens. We have seen a great variety of specimens from

Bradford, and also from the more immediate neighbourhood of Bath, both with and without the calcareous coverings (this we have removed from some specimens with our own hands) and have good reasons for believing them to be *Mytili*. It is a very remarkable specimen belonging to one of our friends; they are attached to the inside of a large *Pecten* by means of the part which Mr. Parkinson denominates their tube, and which in these specimens appears so much longer and narrower than in those figured by him that we cannot persuade ourselves to regard it as any thing more than an incrustation of calcareous matter upon the original byssus, which it is well known serves as a cable to attach these shells with their inhabitants to other bodies. We wish that Mr. Parkinson had chanced to see this specimen previous to the publication of his truly interesting work.

Another of the errors to which we have alluded consists in viewing figures 9 and 10 of plate 16 as the upper and lower shells of a bivalve (*Anomites producta* of Martin). We have not seen Mr. Martin's work, but suppose that the error originated with him. The fact is, these gentlemen have mistaken a part for the whole. We have had an opportunity of seeing a specimen from the late Dr. Menish's collection, which convinces us that the bivalve in question is only a part of a camerated shell of a most extraordinary kind. We must however do Mr. Parkinson the justice to say that, notwithstanding he quotes Mr. Martin's description of this imaginary bivalve, he entertains doubts respecting the real nature of the fossil.

"Thus far is the description of Mr. Martin; but I must here add, that my date worthy friend, Dr. Menish, was strongly of opinion that this was not the whole history of the shell, and that there were reasons for suspecting that this shell was a multivalve. I am not in possession of the particular specimen on which the Doctor rested chiefly the support of his opinion. Possessing only this specimen of fellow valves of this shell, I may have made some mistake, which those who possess more illustrative specimens may be able to correct."

In the same plate are two views, fig. 11, 12, of a spiral tube found in an imperforate shell, of the Linnæan genus *anoma*, thus described by Mr. Parkinson.

"It is a tubular body, spirally disposed, in the form of a cone, curved at its apex; this being lodged in the remains of a shell, in the angle at the side, where the upper and lower margins united, a part of this tube going off from the base towards the opening of

the valves at their upper margin. The tube itself is beautifully fringed over with quartz crystals, and the matrix in which it is imbedded is chert. From two or three casts, and from several impressions in the mass, I was convinced that the shell in which this body was inclosed was of the Linnæan genus *Anomia*; and, reasoning from the proportions of that part of the shell which remained, I was surprized at finding that this body must have filled nearly one half of the shell. I was anxious to discover whether a similar structure existed on the other side; but this side was so completely filled with spar, that after having very much injured the specimen, the fear of destroying it entirely made me desist; not, however, until I had found very great reason for believing that a similar body did not exist on that side, although traces of some kind of organization might here be discovered."

Through the careless manner in which the first sentence of this description is written, we have found it wholly unintelligible. From the remainder, however, and the plates, a tolerable guess of the author's meaning may be made. He might perhaps have been led to draw a different conclusion, if he had not overlooked an engraving in the publication of Mr. Walcott, on the petrifications found near Bath; which considering Mr. Parkinson's acumen, had rather surprized us. At fig. 33, A. B. of that work, are two tolerable representations of similar bodies found in a shell of the Linnæan genus *Anomia*, from the Camerton limestone quarries. In these shells the body in question is not found on one side of the shell only, but a similar body exists on the other side also. The two united at their base and covered with calcareous crystals are represented in two points of view. We have seen several specimens of this fossil, but cannot say whether the spiral tube has actually been exposed in any, but think it highly probable that such is the internal structure of the conical bodies.

There is another error with respect to the shells, which, although of a different nature, we cannot suffer to pass unnoticed. The engraver not having used a mirror, has represented nearly all the spiral shells as heterostrophes, i. e. the twists pass from the right hand to the left, instead of the contrary way. In consequence of which neglect, no difference in regard to this particular, exists between the various shells of a spiral form in plate 5, and the Essex reversed whelk, (*Murex contrarius*) given plate 6, fig. 6.

The sixteenth letter in which fossil fishes are treated of, contains scarcely any thing that is new. The fossils of this class from *vestina nova*, generally called monte bolo, toge-

ther with the circumstances under which they are found, form the subject of an interesting memoir by Mr. Graydon, in the fifth volume of the Transactions of the Irish Academy, part of which Mr. Parkinson has transcribed. He moreover tells us that a fine collection of these fossils formed at a vast expence by the Count de Gazzola of Verona, now make part of the National Museum of Natural History at Paris. It was so remarkable as to attract the notice of Buonaparte during his successful campaigns in Italy, who, as Fajjas observes, "*se concerta avec ce savant pour acquérir de gré à gré ce cabinet unique.*" One specimen in this collection which we have had an opportunity of seeing, merits particular notice; it resembles a pike, and appears to have died while in the act of swallowing another fish of the same species. Its instantaneous death has been attributed to a sudden volcanic irruption into the water, at the moment when it was in the act of swallowing its prey. But some have thought that death could not have taken place so instantaneously from this cause in both fishes, as not to compel the devourer to drop his prey, or afford the prey an opportunity of escape; and have supposed their simultaneous death to have been rather occasioned by an electrical shock, which it is well known frequently attends volcanic phenomena. From the contorted forms of the fossil fish found in the bituminous state of Mansfeldt, Werner likewise supposed their death to have been instantaneously produced by an irruption or sudden formation of sulphureous metallic matter. Mr. Parkinson observes that the British Isles are not so productive of this class of fossils as several places on the Continent. The fact is, they are generally found in the neighbourhood of extinct volcanoes, of which very few, if any, exist in these islands. Other places however occasionally afford them, as Montmartre, where they are found in marly limestone, Nanterre near Paris in solid limestone, Pappenheim and Oeningen in limestone, Portland in the stone of that island, Shepey in pyritous clay, Oxfordshire in blue limestone; but the most perfect specimen we have ever seen, was taken from the blue lias (limestone) quarries near Bath. The scales are preserved entire in every part, and the eye is distinctly marked. It has the dorsal fin near the tail and the anal fin; but neither thoracic nor ventral fins can be perceived. It resembles the carp more perhaps than any other recent species.

Although entire fishes may be considered as comparatively rare fossils, yet parts of these animals, as the teeth, palates,

vertebræ, &c. are extremely common. We have noticed a circumstance relating to the vertebræ which seems to have escaped Mr. Parkinson. The fossil vertebræ which we supposed to have belonged to bony fishes, (cartilage being too soft for the process of lapidification,) are for the most part of a larger size than those belonging to existing species. The largest recent fish, as the sharks, have a cartilaginous skeleton. Besides, we possess a vertebræ many times larger than those of any recent bony fish, being seven inches in diameter, which, in consequence of a shock received when it was first deposited in the quarry, is broken into four nearly equal parts; a circumstance that could not have happened to cartilage, and therefore proving the original bony nature of this specimen. The mass of stone which covered it bears the impression of the fracture. As to the nature of the shock which it must have received we cannot form any conjecture, for the rock in which it was found consists of different beds, all bearing the appearance of a slow and tranquil deposit from water. The pieces moreover into which the bone is broken were contiguous, and in their relative positions with regard to each other.

Insects are very rarely found in a fossil state. Those described and figured by Knox, Lhwyd, &c. are not referrible to any known genera.

Several varieties of a fossil are found at Ocningen, supposed to be a worm, and denominated by Baier *lumbricus marinus petrificatus*; but the animals of this class are, we conceive, too soft to undergo the petrifying process.

Of the *Crustacea* we have crabs from Shepey, Maestricht and the East Indies, and shrimps from Anspach. Some very curious and unknown fossils from Dudley and Llanelly are supposed to have belonged to this class.

The fossil remains which will next engage our attention are more important than those we have hitherto considered, not only from their size, but likewise on account of the rare talents which have lately been employed to point out their distinctive characters. The difficulty of investigating the fossil remains of the *reptiles* was insurmountable, until by the labours of Cuvier and M. Geoffroy St. Hilaire existing species have been more accurately known. The fossil remains of the tortoise are found at Shepey and in the Isle of Purbeck, and in various places on the continent, but chiefly in St. Peters mountain, Maestricht, at Melsbroeck near Brussels, and at Aix in Provence. We wonder that Mr. Parkinson should

not have hesitated to rely upon Faujas St. Fond's conclusions respecting these species of fossils, especially as he seems to be perfectly aware of the mistakes which that geologist has committed, in almost every one of his attempts to determine the real nature of animal remains.

"Reviewing the preceding account it appears, that all of the six specimens found at Melsbroeck, appear, according to Faujas St. Fond, to belong to *T. mydas*, four specimens from Aix, all belong to one unknown species; of the eight specimens from Maastricht, which are all unknown, three are ascertained to belong to as many distinct and new species; and the one found in the quarry of Grand Charonne, near Paris, also is of an unknown species. Hence it appears that of fourteen fossil tortoises, one only appears to be of a known species, and that of the remaining thirteen, none can be referred to any known species, but five of them are decidedly of new species."

Now Cuvier proves that the specimens of Melsbroeck, although marine, (*chelonés ou tortues de mer*) do not belong to *T. mydas*, nor to either of the known species in that division. As to those of Maastricht these are not three distinct and new species, but one new species belonging to the same genus with those of Melsbroeck. The specimens from Aix, although very imperfect, are, from the protuberances on the shell, ascertained to have belonged to the land tortoises (*emyles*).^{*} Cuvier has likewise examined the remains of tortoises found in the quarries of Montmartre, and finds that one belongs to the fresh water division (*trionyx*) and two to the land tortoises (*emyles*).[†]

The remains of animals referrible to the crocodile and others of the lizard kind, have been found in a fossil state in different parts of the world, but chiefly in this island, Germany and France. At Harfleur and Havre two species of crocodile approaching to the gavial (*C. gangeticus*), but both unknown, have been determined by Cuvier. These we can state from our own observation to have been also found in the blue lias quarries near Bath; and the most perfect specimen with which we are acquainted is in the possession of the Rev. Mr. Hawker of Woodchester in Gloucestershire. These quarries and the blue limestone of the Dorsetshire and Yorkshire

^{*} Annales du Muséum d'Histoire Naturelle, tom. 14.

[†] Annales, tom. 16, p. 115. Mr. Parkinson seems not to have met with these remains on the tortoises, perhaps they did not reach this country till after this part of his book was printed.

coasts, as of Houffleur and Havre, are we believe only different parts of the same stratum, affording in all these places the same fossils.

The large animal of *Maestricht*, the fossil remains of which, deservedly a frequent object of admiration, were supposed by Dr. Peter Camper to have belonged to a cetacean animal; and by M. Faujas to a crocodile. M. Adrian Camper, after the most careful investigation, referred to a reptile allied in some respects to the family of monitors, and in others to the iguanas; and the truth of his opinion has been confirmed by the researches of Cuvier. Being as large as a crocodile this animal far surpasses in size any of the species belonging to those genera, to which it approaches the nearest in its general characters. Some other supposed remains of crocodiles, one of which M. Faujas actually determined to be a gavial, are referred by Cuvier to existing species arranged confusedly by Linnaeus under *Lacerta Monitor*, and of which Daudin has formed his genus *tupinambis*. A polished specimen from the Dorsetshire coast, displaying the remains of an animal of this kind, is in Mr. Parkinson's possession; and we have seen some from the lias quarries near Bath, one of which has we believe all the vertebrae.

The pretended fossil man from the quarries of Oeningen, described by Scheuchzer in the Philosophical Transactions for 1726,* and which he made the subject of a particular dissertation under the title of "*Homo diluvii testis et thescopos*," Cuvier finds to be a reptile of the genus *Salamandra*, or rather *Proctus*, of a gigantic size and unknown species. Some naturalists have mistaken it for a fish of the silure genus.†

The fossil skeleton of a flying reptile, from the environs of Archstedt, which some have taken for a bird, he refers to the family of lizards, and constitutes for it a new genus under the name of *Petra-dactylis*.‡

The remains of birds are so seldom found in a fossil state that their existence has been generally doubted. Two feathers are represented by Faujas, from the quarries of Vestura Nova, imbedded in the same stone with the fishes of that remarkable mountain.§ Blumenbach mentions the discovery of the bones of a water fowl in the marly schist of Oeningen; and likewise of some belonging to one of the *anseræ*, in the calcareous schist of Pappenheim. Lemanon in 1782, described the im-

* Vol. 34, p. 38.

† Annales, tom. 13, p. 411.

‡ Annales d'Histoire Naturelle, t. 13, p. 421.

§ Ib. tom 6, plate 1.

pression of a whole bird from Montmartre. But it is to Cuvier that we are most indebted for precise information upon this class likewise. The plates inserted in the neighbourhood of Paris have afforded, according to this illustrious naturalist, the mineralized remains of a pelican less than *Pelecanus arborescens*; of one of the large curlews with naked necks, disposed by Gmelin under the genus *Lamprolaima*; of a woodcock; a starling, and a sea-lark (*Alcedo de mer*). But in his last memoir upon this subject,* he describes a specimen from Montmartre, in which all the parts of the skeleton, with their osteological characters are united, consequently all doubt with regard to the existence of these fossils is removed. He could not determine with certainty to what genus it belonged, but it approached nearest to the quail, and may, he thinks, be some unknown species of that genus.

Mr. Parkinson's remarks upon the fossil remains of the *Mammalia* are introduced, with so proper an acknowledgment of the obligations he is under to the labours of Cuvier, that we shall offer no apology for transcribing the passage. We do not however think that he has chosen the fittest place for his eulogium upon this distinguished philosopher, being equally indebted to him for the greater part of what he has written upon the crocodiles, monsters, and birds.

"Having now to commence the examination of the fossil remains of those animals which are comprised in the Linnæan class *Mammalia*, I feel that it may be necessary to endeavour to satisfy you with respect to the measure in which this part of my task is accomplished. I fear that you will, at first, experience feelings of disappointment, on my showing to you, that the following pages will almost entirely be employed in placing before you the discoveries which have been made by another; and you will probably imagine that this acknowledgment can hardly be made without occasioning me to experience some degree of mortification. But the truth is, knowing that you must be highly pleased, I am thoroughly satisfied with merely recounting to you the most prominent particulars of these numerous discoveries, which have rewarded the patient and laborious examinations of Cuvier. If it should occur to you that this is not the justly celebrated anatomist should teach you, in the following pages, remember that this necessity arises from the number and importance of his discoveries, and consider that if we were giving a history of galvanism, of the alkaline earths, metaphysics, how frequently, in

like manner must the pen be engaged in reporting the discoveries of our illustrious Davy. To have admitted less of the discoveries of Cuvier in the present work, would have been unjust to those many who cannot obtain the voluminous, expensive, and almost prohibited works in which they are contained. To have introduced less would indeed have been to have sparingly employed almost the only light which has ever been thrown on this most interesting subject."

Of the *Cetacea* very few are found in a mineralized state. The fossil skull of a *manatus*, differing from any known species, is mentioned by Cuvier.

It does not appear that any of the *amphibia* have been found in a fossil state, the bones of which present any marks by which they can be distinguished from those belonging to existing species.

The bones of the *horse* are frequently discovered with those of animals that must have existed at a distant era, but no infallible marks of distinction between them and similar bones of our present horses have been pointed out.

Cuvier remarks that the study of fossil *ruminants* is exceedingly difficult. On account of the general resemblance between animals of this family, genera can only be characterized by the horns, which from frequently varying with age, sex, and climate, must in a fossil and mutilated state be very uncertain guides. He is of opinion, however, that we are fully authorized to consider the fossil elk of Ireland as a species that is now become extinct. Horns resembling those of the fallow deer, but one third larger, and which he thinks belonged to some unknown animal, are found in France, Germany, and Sweden. Others belonging to a stag of the size of the roebuck have been discovered by M. Guettard in the neighbourhood of Etampes, and described in his memoirs upon various branches of the sciences and arts.* They bear a resemblance to those of the rein-deer, and were considered as belonging to that species by the academy: the investigations of Cuvier however render this very doubtful.

In Mr. Parkinson's report of this part of Cuvier's labours, he has given an erroneous description of this animal. It is characterized by Cuvier as "*une espece particuliere de cerf, voisine de REUNE, mais de la taille du CHEVREUIL,*" which Mr. Parkinson translates "an animal which appears to have been of a size between that of the stag and of the roebuck."

* Tom. 1. p. 29, 865.

We intreat the reader's attention to the following comparison between another passage of the original and the abstract; not merely for the sake of correcting an error, but to give some idea of the truly philosophical spirit by which all Cuvier's researches are directed.

"That these are not the horns of young rein-deer is evident; not merely from their not agreeing in all the characters of these horns, but from their having belonged to adult animals, whose epiphys were in union with their bones. There is no animal of the old continent to which these bones can be referred, nor do we know that the analogue of this fossil animal is to be found on the new continent."*

"Il est clair d'abord que de pareils bois ne pourroient convenir qu'à de très jeunes rennes, vu leur petit diamètre; cependant les os trouvés avec eux paroissent avoir été d'animaux adultes, et dont les épiphyses étoient soudées au corps de l'os."

"Ensuite les jeunes rennes eux-mêmes n'ont pas tout-à-fait la même disposition dans leurs andouillers."

"N'est il pas vraisemblable que cette ressemblance apparente avec le renne, ne tient qu'à la mutilation de ces bois, et que, si l'on en avoit conservé les extrémités, on y auroit trouvé d'autres caractères plus saillans."

"Toutefois, il faut en convenir, ce ne sont là que des conjectures, et je ne les donne que pour ce qu'elles valent. J'ai toujours eu soin de distinguer nettement, dans le cours de mes recherches, les faits positifs, résultats de l'observation immédiate, de ceux qui ne tiennent qu'aux combinaisons du raisonnement, et je ne quitterai pas ici cette méthode importante."†

Of the *ox* genus *M.* Cuvier seems to think that only one unknown species has been hitherto discovered, which is the large buffalo of Siberia, described by Pallas;‡ but he is by no means positive upon the subject. Against this high authority however, Mr. Parkinson endeavours to support the opinion of Faujas respecting the two fossil heads represented in his Essay upon Geology§; and again in the Annals of the Museum of Natural History¶. Faujas though fond of referring all fossil remains to known species, deviates in this instance from his usual mode, for he asserts that neither of them belongs to the *aurochs*; and observes that if there be any hope of finding the existing analogues, they must be sought after in the inte-

* Parkinson, p. 320.

† Cuvier Annales du Museum d'Histoire Naturelle, tom. 12. p. 365. 4.

‡ Nov. Comment. Petrop. 13. p. 460.

§ Tom. 1. p. 17.

¶ Tom. 2. pl. 33, 34.

rior and least known parts of India. Whereas Cuvier thinks that no specific difference between the first and the aurock can be discovered, and that the second belongs to our domestic ox. After all Furjas is not greatly obliged to Mr. Parkinson, for in another part of the same letter he adopts the conclusion of Cuvier.

“Reviewing these facts relative to the remains of ruminants found in alluvial tracts, M. Cuvier offers the following remarks.

“These remains, as well of the stag, as of the oxen, appear to be referrible to two classes, the unknown and the known ruminants. In the first class he places the Irish elk; the small stag with slender horns of Etampes; the stag of Scania; and the large buffalo of Siberia: in the second class he places the common stag; the common roebuck, the aurocks, the ox which seems to have been the wild original of our domestic ox; and the buffalo with approximated horns, which is analogous to the musk ox of Canada. Besides these there appears a dubious species, the great deer of La Somme, which much resembles the common fallow deer.”*

Certain thick-skinned animals, (*les pachydermes*) compose the next family, in the arrangement of Dumenil and Cuvier, that we are to consider. Of these the elephant deservedly holds the first rank. There is scarcely any part of the known world in which the remains of these animals are not found. Notwithstanding their abundance, however, there are perhaps no fossils of any known genus about which so many mistakes have been committed. These we shall pass over, only observing that the best writers upon the subject, among whom are Pallas and M. A. Camper, have considered the fossil elephant as being of the same species with the Asiatic. But it remained for Cuvier to discover, in the form and structure of the skull, and disposition of the teeth, as well as in the form of their bony plates, such distinctive characters as authorized him to conclude that at least one species of elephant has existed, of which no living individuals are known.† It most resembles the elephant of Asia.

Some specimens of fossil elephants teeth in the possession of Mr. Parkinson, appear to him to designate a difference of a specific kind; and therefore he thinks it probable that two species of elephants, different from those with which we are acquainted, are found in a mineralized state.

* Parkinson, p. 326.

† Annales, Tome 8.

The difference consists in the form and arrangement of the bony plates composing the tooth, which do not accord with those of the fossil teeth described and figured by Cuvier, and differ still more from those of the recent teeth of either the Asiatic or the African elephants.*

The stupendous remains of the animal of the Ohio, improperly called Mammoth, fill our minds with still greater astonishment than those of the elephant. Cuvier has given it the name of *Mastodon* from the form of its grinders, which being pointed and covered with enamel, have been generally referred to a carnivorous animal; and this was the opinion of Mr. Deale the proprietor of the skeleton lately exhibited in London and Bristol. Cuvier proves this idea to be erroneous, and shows that the teeth are worn down by grinding in some specimens even beneath the base of the pyramids. He conceives that its food must have been the same with that of the hippopotamus and boar, whose teeth are similarly constituted. We shall give the result of his researches in the words of Mr. Parkinson.

"From a careful attention to every circumstance, M. Cuvier conceives that we have a right to conclude, that this great mastodon did not surpass the elephant in height, but was a little longer in proportions, its limbs rather thicker; and its belly smaller. It seems to have very much resembled the elephant in its tusks, and indeed in the whole of its osteology; and it also appears to have had a trunk. But notwithstanding its resemblance to the elephant, in so many particulars, the form and structure of the grinders are sufficiently distinct from those of the elephant, to demand its being placed in a different genus. From the later discoveries respecting this animal, he is also inclined to suppose that its food must have been similar to that of the hippopotamus and the boar, but preferring the roots and fleshy parts of vegetables; in the search of which species of food, it would of course be led to such soft and marshy spots as it appears to have inhabited. It does not, however, appear to have been at all formed for swimming, or for living much in the water, like the hippopotamus; but rather seems to have been equally at home on land."

"From his researches on this bone, he is enabled to distinguish five species of this genus, which he thus designates: 1. The mastodon of the Ohio. 2. The mastodon with narrow teeth found at Simone and elsewhere. 3. The small mastodon, i. e. with small teeth. 4. The mastodon of the Cordilleras, the largest animal with square

teeth. 5. The mastodon of De Humboldt, which is the smallest.— No individual of either of these species is at present known to exist.”

The fossil remains of a *rhinoceros* different from either of the known species, are found near Montpellier, in several parts of the vale of Arto, and according to Mr. Parkinson at Walton in Essex, but they are most abundant in Siberia.

Besides the common *hippopotamus*, one not more than half as large has been discovered in two pieces of sandstone by M. Cuvier; but unfortunately he could not ascertain where this sandstone was brought from.

The bones of two animals, resembling the tapir have been found in France, denominated by Cuvier the *large* and *small fossil tapirs*.

But the most astonishing of all the discoveries of this able anatomist, is the existence of the fossil remains of eight species of this family in the plaister quarries of Paris, belonging to two genera; which, as far as our knowledge extends at present, have no living analogues. The form of the teeth enabled him to determine that they were herbivorous animals, and the structure of the feet that they belonged to the pachydumata. He was likewise led to infer from the form and number of the bones constituting the nostrils, and from other characters in the upper jaw of the species, that the animal possessed a snout like *huaraca*. The first genus four species were ascertained, *P. magnum*, *P. medium*, *P. crassum*.

The remains of an animal has been found by Prof. de Buffon in the Lower

The other four in the plaister quarries, compose a genus is given. They are named, *A. medium*, &c.

We earnestly wish to permit us to give a name to the talents and patience of the Parisian anatomist, who, is from his extreme accuracy, by his countrymen with the appellation of the English philosopher. The reader may have some idea of the patience required in them, when he is told that six years were employed in collecting and combining the materials of the inquiry respecting the

fore feet of one genus. Of the talents engaged in the undertaking, he can form no judgment, without a perusal of the original memoirs. In saying thus much we disclaim all desire to find fault with Mr. Parkinson's abstract: but as it contains very little of the detail, and is without the accompanying plates, it must necessarily be imperfect. Persons engaged in these pursuits, however, who have not access to the original memoirs, are under infinite obligations to him, for the opportunity here afforded of knowing the general results of these interesting researches.

Two extraordinary quadrupeds, *megalomys* and *megatherium*, the remains of one of which are found in Virginia, and of the other in various parts of South America, having no analogues, compose a new genus of the family *edentes* of Dumenil and Cuvier; and may be placed according to Cuvier between the sloths and the anteaters, bearing however a greater resemblance to the former than to the latter.

The osseous breccia of Corsica, Gibraltar, and other places in the Mediterranean, contain a variety of bones belonging to herbivorous animals, of the families of ruminants and nibblers (*rongeurs*), the greater part of which are still living in those countries. One only was found by Cuvier to differ from the known species, but it very nearly accorded with *Lajourys alpinus* Cuv. belonging to Pallas's newly discovered Siberian genus. Even this difference he admits may be owing to mutilation of the fossil bones.

Several caverns in Germany, particularly those of Gaylenreuth on the confines of Bayreuth furnish bones, which, after careful examination and comparison with recent skeletons, Cuvier concludes to have belonged to two species of bear hitherto unknown among the living species of the genus.

In the same caverns are found the remains of an animal which differs from all the living species, whose skeletons he had an opportunity of examining; but a precise agreement exists between the teeth of the fossil, and those of the hyena of the Cape, of which the skin only is preserved in the museum.

Other bones of the same caverns resembled those of the jaguar, or great spotted panther of South America; the fox and the polecat. Some possessing no characters by which they could be distinguished from the bones of animals still living, in the same countries where these remains are found, were those of the wolf or dog.

The fossil bones of three carnivorous quadrupeds from the plaister quarries of Paris, have likewise been examined by this indefatigable naturalist. The first of these he supposes to have belonged to some species of the genus *Cams*, or to some carnivorous animal between that genus and *Viverra*. The second appeared to belong to a species of *Martin* about the size of a common cat. The third to a carnivorous animal with short legs, as the *otter*, but of a species unknown to naturalists.

Besides these, there exist in the plaister quarries the bones of an animal of the same genus with the *American opossums*.

We meant to have concluded with some general remarks on the connection of organized fossil reliquia with the strata in which they are contained, being deductions from the foregoing facts. This is the subject of Mr. Parkinson's last letter, which has been already pronounced the most vulnerable part of his work. But as this article has even now been extended beyond the usual limits, we must defer its conclusion until another opportunity.

ART. VIII. *Report on the Medicinal Effects of an aluminous Chalybeate Water, lately discovered at Sandrocks, in the Parish of Chull in the Isle of Wight, pointing out its Efficacy in the Walcheren, and other Diseases incidental to Soldiers who have served abroad, and more particularly the Advantages to be derived from its Introduction into private Practice.* By William Lempriere, M. D. Physician to the Forces at the Army Depot. Musson and Taylor. Newport, Isle of Wight. 8vo. 1812.

THE mineral water which is announced in this report, was discovered a few years ago by Mr. Waterworth, an apothecary at Newport in the Isle of Wight, whilst he was employed in exploring the mineral springs of that island. It is situated on the south-west coast. It was first noticed in the form of a small stream, issuing from a cleft in the rock, and trickling over the sandy beach into the sea; it has since, however, been traced by the patience and activity of the discoverer into a rock, one hundred and fifty yards from the beach, and about one hundred feet above the level of the sea. Here a basin has been hollowed out in the soil, into which the

water flows at the rate of two or three hogshheads in twenty-four hours. "Its name, the aluminous chalybeate," announces its principal contents. It is the strongest chalybeate known. A pint contains three tenths of a cubic inch of carbonic acid, about forty-one grains of sulphate of iron, about thirty-one grains of sulphate of alumina, ten grains of sulphate of lime, three grains of sulphate of magnesia, sixteen grains of sulphate of soda, four grains of muriate of soda, and a very trifling portion of silica. Its medical virtues obviously depend on its iron and its alum. Dr. Saunders in a letter which is here printed, attests from his own experience its efficacy in cases of uterine hemorrhage, excessive discharges of the fluor albus, and in incipient cases of diseased uterus, so as to prevent the progress to ulceration, and anticipates its usefulness in dyspepsia, chronic diarrhoea, strumous and glandular diseases, and as an external application in many cutaneous diseases, and phagedenic and strumous ulcers. As it is too strong for weak stomachs, he advises it to be diluted with twice its quantity of common water, and a pint of this weaker mixture to be given in the day, divided into four doses.

Dr. Lempriere, the author of this volume, is physician to the depot at the Isle of Wight. The hospital contains on an average about eighty patients at a time: acute diseases affecting principally the recruits and volunteers, who are going to the regiments abroad, and chronic diseases those soldiers who have been sent home ill from the influence of foreign climates. It is, of course on these latter cases that Dr. Lempriere has tried the influence of this chalybeate, and more especially on those from Walcheren.

The calamitous experience of our expedition to the Scheldt has refreshed our memories respecting the way in which constitutions not habituated to it, are affected by this singular district of country. The Netherlands, of which Walcheren is only an insulated portion, are well named. In those parts which border on the sea, an elevation of ten or fifteen feet above its level is a rarity; much of the ground is as low and some even lower than the surrounding water; if therefore it were not fenced by the dykes, which are preserved at a great expence, its rivers would flow over their banks and overwhelm the villages and towns. From this peculiarity of situation, excepting those parts which peer above the level of the sea, such as a part of French and Austrian Flanders, the greater part of Brabant, the county of Hennegan, Namur, and the Dukedom of Luxemburg, all which are more elevated

and dry, the remainder of the land is wet and swampy. This is particularly the case with all that district which lies between the river Lys and the coast, Dutch Flanders, Zealand, a large portion of Holland, West Friseland and Friseland. The prevailing diseases of the country are those of marshy situations, and the unhealthiness of each particular spot is very nicely proportioned to its lowness and moisture. Of all places in the Netherlands Sluys is said to be the most unhealthy to strangers. In the neighbourhood of this place, on the north-west side, is a flat creek, called the Zwie; here in summer the water readily evaporates, and the bodies of the fish, and the marine plants which are thus exposed, give out a nauseous odour and corrupt the air. Nothing however has been spared to correct the unhealthiness of this situation, the buildings are scattered, the streets are broad, and meadows and corn fields lie around the skirts of the town. The inhabitants who are accustomed to the dampness of the place show no signs of its unhealthiness: many of them reach a great age; they are even so much habituated to the air, that one which is more pure and dry, such as that of Utrecht, is said often to cause an intermitting fever, which is cured only by a return to the air of Sluys. Its influence on strangers however is very different. The garrison suffers severely, particularly in the first year of their residence; in 1779 only four out of a whole battalion remained free from disease, and this is very commonly the case. In spite, however, of this remarkable difference between the influence of the place on new-comers and old residents, it used to be the custom to change the regiments every two or three years.

To the general fact of the insalubrity of swamps, one of the most remarkable exceptions is afforded by the ten baths in the neighbourhood of Valenciennes; they are even employed as remedies for disease. The place is a thick, black and stinking morass, on the spring of which a small quantity of spring water stands, which in many places rises out of the soil. That the baths may be used with greater convenience, there is a wooden house, without walls, roofed with slate, and supplied with balls which prevent any one from sinking too deep into the mud. On the surface are numerous little pits or cells into which the bathers go. The patients often introduce only the feet into the mire, sometimes however they suffer themselves to sink up to the middle, and often even deeper. These ten baths are celebrated for the cure of sciatice, palsy, and many other diseases.

We believe that our army physicians were not prepared to

find the diseases of Walcheren so obstinate as they proved to be; the inefficiency of bark in their hands, and the frequent occurrence of visceral tumefactions, led to a trial of mercury with very different results. We believe that those who had the greatest intercourse with the Walcheren cases felt at the conclusion of their attendance very imperfectly satisfied with the result of their practice. Finke who seems to have practised in the Netherlands,* and to have been extensively familiar with the fever incident to these marshy countries, attributes the unsuccessful treatment of his professional neighbours to their early employment of bark, and urges with great force the necessity of repeated purging before this remedy is resorted to.

It not unfrequently happened, says Dr. Lempriere, speaking of the patients from Walcheren, in whom the symptoms had yielded in a considerable degree, that there remained such a depression of strength as not only to render the patients unfit to resume their duty, but also extremely liable to a relapse. Their recovery might be considered to be at a stand, and it did not appear to be in the least degree promoted by the usual tonics. Such cases therefore appeared to offer a fair opportunity for trying the new mineral water. Sixty patients were selected in whom the paroxysms of ague had been suspended, but who were left in a state of great debility. In about three weeks thirty-six of these patients were restored to health and sent to their duty; eight were obliged to omit the water, in consequence either of relapses, or the supervention of other diseases, and sixteen continued the water whilst they were in a progressive state of recovery.

"I was very forcibly struck," he continues, "by the rapid effect which the water produced on the appetite and spirits. The improvement of the appetite was soon succeeded by an increase of strength and a return of the natural complexion, and the recovery of these patients evidently proved more permanent than that of the other Walcheren cases sent out of the hospital under a different mode of treatment." Dr. L. always employed purges before he began to prescribe the water, to each dose of which was added a tea-spoonful of tincture of cardamoms. The other diseases in which he employed it with great success were all cases of the asthenic kind, "unconnected with any permanent affection of the abdominal viscera;" dyspepsia, general anasarca, debility left by obstinate ague, or visceral diseases, chronic dysentery, chronic

* Ver-nich emen Allgemeinen Medicinisch Praktischen Geographie Zweyter band, p. 317.

rheumatism, that state of constitution arising from long courses of mercury, scrophulous diathesis, and particularly in a disease occurring in the troops received from the West Indies, of which the chief symptoms were paleness, sallowness, breathlessness on motion, debility, œdema, quick pulse, inability to bear the upright posture without giddiness and a tendency to fainting, bad appetite, pale stools, and prominent b lles.

Celsus observes that animals which have been brought up among blacksmiths have very small spleens, and hence advises that water in which red hot iron has been cooled should be used as a drink in ~~the~~refraction of that organ. We know not how far this fact or the inference may be relied on: the former could be readily ascertained by committing a few murderous depredations on the blacksmith's shops, and if it proved to be correct would give some additional probability to the efficacy of chalybeate waters in cases of enlarged spleen.

The analysis of the water, the assertions of those who have employed it, the eminent name included among the witnesses to its efficacy, and the situation where it springs, will lead we hope to a full trial of its virtues. An eminent continental writer calls the Isle of Wight the Montpellier of England. Its southern position, its insular form, its salubrious air, its vales and woods and mountains, and the spacious and striking prospects beheld from its elevations, render it admirably calculated for the resort of invalids. There can be no reasonable doubt that the efficacy of mineral waters depends very much on the circumstances which accompany their employment. Even a healthy person grows fatter and more florid during a tour of pleasure. Business and all its cares are laid aside, the Kings are distended by a purer air, a hundred temptations invite to exercise, and the heart dances with that cheerfulness which is universally inspired by the sight of the country during a fine season of the year. A new scene with all its accompaniments invites the mind outwards, and prevents its dwelling on those uneasy feelings which attend on a state of ailment. Diseases do not more surely produce uneasy sensations than uneasy sensations keep up and aggravate diseases; these sensations are sure to be increased by attending to them, and to draw away the mind from them is to remove one of the causes of their intensity and perpetuity. This is the meaning included in the popular expression "change of scene," and it is certainly not an over-refinement in observation. "We all see where the hour hand of Nature's clock points, but we have no eye for the run of her second and third hands."

MEDICAL AND SURGICAL INTELLIGENCE.

CONSISTING OF ORIGINAL DESCRIPTIONS OF VARIETIES IN
THE APPEARANCE AND TREATMENT OF DISEASE.

(Communications are requested to be addressed to the Editors,
at Mr. Underwood's, 40, West Smithfield, London.)

ART. I. Effects of Ol. Terebinthinae rectificatum in Cases of Intestinal Worms. Communicated by Dr. J. F. Davies of Bath.

Case 1. A lady, the wife of a distinguished philosopher, formerly a physician, but who has long relinquished practice, had for many years been subject to complaints which were considered to arise from intestinal worms. Strong purgatives were had recourse to for their expulsion, and it was only from the use of these that she obtained any relief. Among the faeces were coils of cylindrical bodies, of a dark olive colour, of various lengths, and about the size of a crow's quill. The longest shewn to me was three inches. When dried they contracted so as to break transversely in several places, and were of a deep red colour. Neither head nor tail could be accurately distinguished, but as the extremities appeared truncated, perhaps none of them were entire. Notwithstanding all this, and the absence of motion, the husband of the lady was firmly persuaded that they were organized, and resolved, after perusing the communication from Dr. Fenwick, in the 2d vol. of the *Transactions* of the *Medico-Chirurgical Society*, to ad-

minister the *ol. terebinthinæ*. Two ounces were accordingly taken on the morning of Feb. 23d, after a light supper of gruel. Three stools followed within two hours, when another ounce was taken and thrown up again. It was however repeated, and remained upon the stomach. In the course of the day she had two more stools, and during the night was purged and vomited violently. Scybala with mucus and the bodies conceived to be worms, but in confused masses, were observed in the evacuations. She soon recovered from the violent operation of the medicine, and remained free from complaint until March 7th, when after much uneasiness in the direction of the arch of the colon she had a costive stool, and with it puckered shreds of coagulable lymph, about half an inch in breadth, and five or six inches in length, were discharged. The puckers were in the longitudinal direction of the shreds. None of the cylindrical bodies accompanied this evacuation. Castor oil was administered, which brought away more of the same kind of shreds. It has been repeated occasionally since, and she has at present no pain, nor can either the shreds of coagulable lymph or the cylindrical bodies be now perceived in the *feces*. Neither has she any of the symptoms formerly attributed to worms.

Case 2. A lady who had for several years been afflicted with *ascarides* was advised to throw up two ounces of oil of turpentine with one ounce of warm milk, which she did several times, and remained free from the complaint ten months. About a month ago she threw up four ounces of the oil, with the same quantity of warm milk, and is now free from complaint. In the first proportion it occasioned much pain, and having heard me say that it had been swallowed with safety in its pure form for other kinds of worms, she attempted to use it undiluted, but the pain occasioned by it was so great that she was compelled to desist.

Case 3. A little girl, six years of age, had for more than a year been troubled with *ascarides*. A table-spoonful of oil of turpentine with a small tea-cupful of warm milk was thrown up, and repeated several times. This happened two years ago, and she has been free from the complaint ever since.

Art. II. Effects of Laudanum taken in large quantities.
 Communicated by the same.

Case 1. W. W. æt. 70, took by mistake two tea-spoonfuls of tinctura opii (150 drops) on two successive nights. The first dose gave him a very good night, and on the following day he said his head felt as if he had taken laudanum, and that he had a frequent desire to make water without being able to empty the bladder. The mistake was not discovered, for it was supposed both by himself and friends that he had taken two tea-spoonfuls of tinct. camphora comp. which had been recommended for a spasmodic affection of the organs of respiration, with which he was afflicted. I was called to him at six o'clock in the morning after the second dose. He was then much flurried, his pulse very quick, considerable thirst, and frequent micturition. He had then discovered his mistake. He was recommended to drink freely of lemonade, orange juice, coffee, &c. and some magnesia and rhubarb were given, which in a short time moved the bowels. He gradually recovered without much drowsiness, and the spasmodic affection of the organs of respiration was completely cured.

Case 2. J. B. æt. 68, drank, out of a bottle which had been accidentally left in his room, it is supposed, two ounces of vinum opii, at four o'clock in the morning. He soon after talked a great deal and sung; after which, at six o'clock, he became sleepy and breathed laboriously. At nine o'clock what he had done was discovered: he was immediately roused, and compelled to swallow two scruples of white vitriol, and soon after six grains of tartarized antimony. Sickness followed, and he threw up more than a pint of fluid slightly tinged with laudanum. Vinegar and coffee were frequently administered, and he was kept awake the whole day. At seven in the evening he had a very strong full pulse, was less drowsy than he had been during the day, but appeared to suffer much from irritation in the bronchiæ; which was supposed to arise from some vinegar that might have passed into the larynx while the attendants were forcing him to swallow that remedy. A brown mucus was occasionally expelled from the trachea, a circumstance from which this suspicion derived confirmation. Shortly after he fell into a sleep state, from which he could not by any means be roused, nor could he be made to swallow anything. His breathing was rather

apoplectic, and he perspired considerably. His pulse became more feeble, with irregularity and occasional intermissions. Slight subsultus was perceived, but no general convulsions. He remained in this state till the evening of the third day, when he died. When he could no longer swallow, blisters were applied to his chest and between the shoulders, and sinapisms to the feet, and an enema thrown up with vinum aloes. A stool followed a second injection, and some urine was passed. There was no appearance, either in the head or stomach, when these parts were examined within two days after death, that could be attributed to the laudanum; the bladder was full of urine.

QUARTERLY LIST OF NEW MEDICAL PUBLICATIONS.

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NO. XIX.

ART. I. *Cases of Apoplexy and Lethargy, with Observations upon the Comatose Disease.* By J. Cheyne, M. D. Fellow of the Royal College of Physicians, Edinburgh; Licentiate of the King and Queen's College of Physicians in Ireland; one of the Physicians to the Meath Hospital, and County of Dublin Infirmary, &c. 8vo. London. Underwood, 1812. Pages 224.

Observations sur la Nature et le Traitement de l'Apoplexie, et sur les Moyens de la Prévenir. Par Antoine Portal, Professeur de Médecine au Collège Impérial de France; d'Anatomie au Muséum d'Histoire Naturelle; Chevalier de l'Empire et de la Légion d'Honneur; Membre de l'Institut de France, de Bologne; de l'Académie des Sciences de Turin, de Copenhague, de Harlem; des Sociétés de Médecine de Paris, de Montpellier, d'Edimbourg, de Padoue, de Gênes, de Venise, de Petersbourg, de Wilna, d'Anvers, de Bruxelles, de Neuchâtel, de Bordeaux, de Toulouse, de Tours; de la Société des Naturalistes de la Vétérinaire; ancien Chevalier de l'Ordre de St. Michel. 8vo. Paris 1811. Pages 480.

SOME important questions are connected with the subject of apoplexy; questions which are practical as well as speculative, and we therefore rejoice in every attempt to investigate the subject.

Persons of very different habits, and under very different circumstances, are often suddenly struck down by fits attended with stupor, stertor, a slow pulse, and sometimes convulsions. In a large proportion of these cases, multiplied experience

has ascertained that blood distends the vessels of the head, or that, having ruptured them, it lies in a mass upon or within the brain. Are all cases of such fits then to be referred to compression?

When fulness of the vessels exists, and when their rupture is threatened, depletion is the natural remedy: but in some cases of apoplexy, water alone, or water mixed with blood, has been found within the brain. Are such cases similar in cause to those of bloody effusion, and do they admit of similar treatment?

A man who eats and drinks largely, who is fat and florid, whose breathing is thick, and his muscles clogged in their action, may very probably after a meal or active exertion, have his brain loaded with blood, and no doubt can exist of the propriety of lessening its general quantity. But when a spare man who eats little and drinks much, after an accustomed debauch, is stunned by a fit, is pale, convulsed on one side, and dead on the other; is such a man to be regarded as labouring under a plethora of the head, and to be bled like the glutton?

Loss of sense and voluntary motion whilst the vital actions continue, are the prominent marks of apoplexy. Are we then to regard every one who is oppressed and snoring, and who cannot be roused without difficulty, if at all, as in a state of apoplexy? If not, at what point between common sleep, and total stupefaction which no stimulation can dissolve, does the apoplectic state commence? and what is the nature of the heavy oppression which is on the other side of that point?

If the minor degrees of somnolence are merely tendencies towards apoplexy, arising from smaller degrees of compression, what are we to say of sleep? A man who sleeps six, eight, or ten hours in the twenty-four, is not regarded as oppressed with drowsiness; but if he sleeps twelve, fourteen, or sixteen hours, and if, when forcibly roused, he readily sink back into his doze, though without pain or any other disorder, he is thought lethargic and diseased. Does natural sleep differ from this excessive drowsiness in degree merely, or do they depend upon states essentially distinct from each other?

He who has been exposed for a certain period to the vapour of burning charcoal, loses sense and motion, his breathing is stertorous, his countenance flushed, his lips livid, his pulse full and strong. Is such a man apoplectic from pressure on the brain; is he so from a change produced in the chemical qualities of the blood, or from some impression on the nerves alone?

When from age, intemperance, or other causes of premature weakness, the faculties fail, the head shakes, and the limbs perpetually tremble, we say that the person is palsied; and we ascribe the effects to deficient strength in the nervous and muscular systems. When the power of one side is lost we also say that the person has palsy. The latter disease we know generally proceeds from pressure; but may it not sometimes arise from a change in the state of the nerves independent of compression? and if it do so, in what manner may the complaint be distinguished, and how should it be treated?

Great differences of opinion have existed, and do still exist, in respect to these and similar questions, as in respect to all other medical doctrines. Some of them may probably never be satisfactorily answered; and those which admit of reply, can receive it only from a careful record of cases, and a minute and faithful connection of symptoms with morbid appearances.

We presume that Dr. J. Cheyne, Physician to the Meath hospital, and County of Dublin infirmary, is our old acquaintance from Leith, whose works on croup and other diseases of children, we have formerly had occasion to notice with respect. His present work will derive its reputation more from being the only distinct treatise on the subject in our language, than from the extent of its materials or the originality of its conclusions. It is unquestionably inferior to the elaborate treatise of Portal, both in quantity of fact and ability of argument. It is written avowedly in haste; and we have not discovered any sufficient reason for this urgency in the importance of the doctrines which it contains.

“Being aware of many defects in the following pages, I beg leave to say, that, until lately, I have not had the benefit of leisure to make the proper use of my opportunities of observation; and that in a work compiled under the disadvantages of the fatigue and hurry of professional employment of the most laborious kind, neither deep researches into the writings of medical authors, nor the most orderly disposition of materials, can reasonably be expected.”

Dr. Cheyne denies the opinion of Morgagni, which no one at the present day entertains, that aneurism is a common cause of apoplexy.

“If I have not misunderstood Morgagni, (which from his rambling and parenthetical manner, and defective arrangement, is not

improbable,) he is not consistent in his commentary upon the various ways in which laceration of the vessels in the brain may occur, but his favourite solution of the cause of the lacerations appears to be, that they arise from an aneurismal dilatation of the vessels."*

"Extravasations of blood often take place in distant and opposite parts of the same brain, but were these from aneurism, independent of general vascular excitement, it is not probable that they would all burst at the same time; and we should doubtless be able to detect, in some part of the brain, aneurismal tumors which had not burst. Dilatation would be perceivable in a very minute vessel. The smallest vessel in the brain, which contains red blood, may be so exposed, as to enable us, with the aid of a common magnifier, to demonstrate partial distension, were it present, as completely as in the aorta. I need scarcely say, I have repeatedly examined, with the utmost care, many of the vessels in the neighbourhood of lacerated portions of the brain. A strong argument against the existence of an aneurismal state of the vessels, might be rested on the admission of Morgagni himself, that although he had carefully dissected so many brains, he was not, in any instance, able to detect the commencement of the irregular cavities, so small and obscure is it."†

Although aneurism very rarely exists within the skull, yet we believe that the changes in the coats of arteries which in other parts of the body predispose to this disease, are a frequent cause of apoplexy when they take place in the vessels of the brain, and that the effusion which in other situations is limited by the formation of a sac, becomes a more diffused extravasation in the brain from the deficiency of cellular membrane, and the tender and yielding nature of the surrounding parts. This, however, is not the opinion of our author who next proceeds to deny the truth of Dr. Baillie's assertion, that an ossified and diseased state of the arterial trunks is a frequent attendant on the extravasation in apoplexy. The opinion of this eminent anatomist is, that "when blood is extravasated within the cavity of the cranium, where there has been no external injury, the vascular system of the brain will be almost always diseased." It is, he proceeds, "very common, in examining the brains of persons advanced in life to find the trunks of the internal carotid arteries, upon the side of the sella turcica, very much diseased; and this disease extends frequently, more or less, into the small branches.

* *Case of Apoplexy*, &c. page 32.

† *Ibid.* page 31.

The disease consists in a bony or earthy matter being deposited in the coats of the arteries, by which they lose a part of their contractile and distensible powers, as well as of their tenacity. The same sort of diseased structure is also found in the basillary artery and its branches. The vessels of the brain under such circumstances of disease, are much more liable to be ruptured than in a healthy state. Whenever blood is accumulated in unusual quantity, or the circulation is going on in them with unusual vigour, they are liable to this accident; and accordingly in either of these states ruptures frequently happen. Were the internal carotid arteries, and basillary artery not subject to ~~the~~ diseased alteration of structure which has been described, effusion of blood within the cavity of the cranium would be very rare.*

This is not so much to be called the deliberate opinion of Dr. Baillie on a point of controversy, as his decided and positive declaration as to a matter of fact. Dr. Cheyne, however, maintains that he is wrong; asserting that blood in apoplexy is not poured out by the large trunks, but by the branches; and that the more the strength and action of the trunks are impaired by ossification, the less is the probability of rupture in the smaller vessels proceeding from them. He adds that ossification is not generally found in those whom apoplexy has destroyed; that its occasional occurrence is nothing more than an instance of the casual coincidence of two diseases peculiar to the same period of life; and that some ossified vessels, as the coronary arteries, sustain a great momentum of circulation without being disposed to rupture. We must observe that we have great faith in the accuracy of Dr. Baillie, and also in his simplicity; or rather his habit of stating his opinions without vehemence or force, a habit which gives us confidence that when his statements are strong, his facts will be found so too. We trust more therefore, on the present occasion to his declaration that the arteries of the head are generally found diseased in these cases, than to the reasons of Dr. Cheyne, or to the inferences which he has drawn from the silence of former anatomists as to the unfrequency of its occurrence. He is in this instance, we think, guilty of that frequent source of error, an unwillingness to allow the adequacy of more than one cause for the production of an effect, for although we believe that apoplexy is often produced in the manner which he

subsequently describes, namely, by violent capillary excitement, still our own dissections have abundantly confirmed to us the accuracy of Dr. Baillie's observation. We applaud the patient minuteness with which Dr. Cheyne has conducted his dissections, and acknowledge that we have often observed the dotted appearance which the mouths of ruptured vessels give to the surface of apoplectic cells.

"It is not," he says, "by the scalpel alone that the anatomist can demonstrate the state of the vessels which pour the blood into the substance of the brain during apoplexy. But in many cases after he has exposed the seat of the extravasation, he may, by means of a syringe, or by the patient use of a camel-hair pencil, by washing away the broken portions of the brain, and carefully removing the larger masses of the blood, (a work of two or three hours and of great delicacy,) at last, all along the walls of the irregular cavity, show many vessels, not larger than a human hair, ending in small clots of blood; and he will sometimes find the same appearances in various and distinct parts of the same brain. Hence it seems that the bleeding does not depend on erosion, (which, indeed, could not be considered as an ultimate cause, for we should have to explain the origin of the eroding matter,) nor is it owing to aneurism, nor ossification, but to a great and simultaneous action of the smaller arteries of a hemisphere, or of the whole brain; an action which, strong as these arteries are, they, in general, are unable to bear without a rupture of their coats."*

Dr. Cheyne admits that serous apoplexy exists as a disease distinct from the sanguineous; yet this admission leads to no practical benefit; for he adds, that the symptoms of the disease, as well as its causes, are so involved in obscurity, as not to justify any decided difference of treatment.

"When we find, after a fatal case of apoplexy that we can uncover the brain without the escape of a single drop of blood; that the brain is soft and colourless; the ventricles enlarged; and perhaps distended with serum; the plexus choroides pale; we see a very different disease from that which is described in this volume at such length, and which Gale has emphatically characterized, 'multo nimirum sanguine in principium animantis confertim irrudente.'"

"The symptoms which Salus, and after him a variety of authors have described, as distinguishing serous apoplexy, have been repeatedly observed in those cases, which dissection has afterwards proved to have been sanguineous. Most works on apoplexy contain dissections, in which the substance of the brain is described as lacerated and injected with blood, in such as had been of a spare habit and phlegmatic temperament." "Even if the patient is far

advanced in life; of a pituitary temperament; of the female sex; and of abstemious habits; we are not sure that we shall not find a rupture of the vessels; nor are we under these circumstances, warranted in giving a more favourable prognostic than when apoplexy seizes a person sanguine, plethoric, and habitually intemperate."*

The general plan of treatment recommended by our author, is that of copious bleeding and purging, which he employs even in those cases which are supposed to depend on repelled rheumatism or gout. He reprehends in the strongest manner the use of emetics which Dr. Fothergill so warmly patronized, and which a controversial letter by Dr. Lubbock, under the name Pyrrho, inserted a few years ago in the *Medical and Physical Journal*, tended to encourage. But to this part of the subject we shall have occasion to revert hereafter.

A principal object which Dr. Cheyne had in view in his present publication, was to distinguish certain states of stupor from the decided apoplexy.

"I have every wish," he observes, "to avoid unnecessary distinctions in medicine, and to see simplicity in the nosological arrangement; yet at the expence of restoring another genus to the table of diseases, I consider it right again to draw the line between apoplexy and lethargy. I found great confusion arising from the attempt which had been made to identify these two affections of the brain; and those who best understand the nature of apoplexy will be the most ready to admit that it is a disease which requires an undivided attention."†

Some interesting cases of soporose affections are related, of which we shall quote the following example.

"December, 1808. For some years I have occasionally visited a florid, but enfeebled man, now 65 years of age, with light blue eyes and sandy hair, who has long lived indolently and luxuriously, and who has long complained, that while dressing, or sitting at breakfast, or arranging his affairs, he often, ten times in an hour, falls asleep, and he nods even while conversing with a friend, or walking across his chamber. He complains that he spends many hours every day merely in putting on his clothes: indeed I have ascertained that he begins to dress at five o'clock, and is not ready to walk out before one; eight hours being daily wasted in dressing, and at breakfast. He complains not so much of drowsiness, as of the length of time consumed in every act which he has to perform. His whole time is spent in dressing and undressing, and at his meals; with great difficulty he obtains half an hour for walking abroad.

He is much troubled with tremors, particularly of his hands. It was necessary, in 1807, to put him under a course of mercury; but this medicine did not produce the slightest change in his lethargic complaint. His recollection of events long past is accurate; but he has so little power over his associations that he is obliged to make memoranda of the questions he wishes me to answer, relative to the state of his health. From the medicines he has taken for these complaints, he has not derived the slightest benefit.”*

Similar cases, though varying in degree, our author alleges to be by no means uncommon, and to differ in some essential respects, especially in the perfect muscular power, from the common forms of apoplexy and palsy. He further maintains that the appearances on dissection in such diseases are uniform; and that they consist in the following particulars:—a deposition of watery, citrine coloured fluid within the ventricles, and more especially upon the surface of the brain, sometimes separating the convolutions very considerably from each other; an opacity of the membranes, particularly the arachnoid, a turgescence of the veins and minute arteries; flaccidity and moisture of the substance of the brain, particularly in its cortical part; and a laxity of the arterial system. Sometimes there is a change of colour, and of stricture in some parts of the brain, as of the corpora striata which seem so disorganized as to approach towards dissolution.

These lethargic diseases are regarded as arising from long continued excitement of the brain; and no great novelty of practice is adopted for their relief. Bleeding, blistering, and purges, are the principal remedies, and of these; repeated local bleedings were found most efficacious, purgatives being less so than might have been expected; tonics, diuretics, and mercury being of little avail.

For our own part we believe many of these cases of lethargy, stupor, or mental lassitude to arise from disorder in the alimentary functions, and to be proximately caused by the circulation of ill prepared fluids through the brain, and have found them generally relieved by such remedies as rectify disorder in the chylopoietic functions. We attach but little importance to the appearances in the brain which Dr. Cheyne has observed in such instances, because they often occur without the existence of stupor, lethargy or carus, and being in possession of no standard to ascertain the natural vascularity or consistence of the brain, we are unable to decide the importance which should be attached to slight appearances.

The name of Portal is familiar to the medical profession throughout Europe, and we have already had occasion to represent him to our readers as the Morgagni of the present age. His work on apoplexy contains a mass of information which renders it highly valuable. In France it appears, that in what is regarded as serous apoplexy, or apoplexy from a loaded stomach, emetics are the usual remedies employed. In 1781, Portal published a memoir in the Transactions of the *Academie des Sciences* at Paris, in which their use was opposed, the author maintaining, that serous and sanguineous apoplexy were indistinguishable in their symptoms, that they proceeded from the same cause, fulness in the vessels of the head, and that emetics were either wholly inefficient from the general torpor of the system, or injurious by increasing determination to the brain in the act of vomiting. It would appear that this paper had not produced general conviction, for in 1803 a second memoir was inserted in the *Memoires de l'Institut*, in which the same doctrines were further inculcated, and in 1811, the volume before us, in which they are re-urged, with many additions, appeared.

The symptoms which the French physicians consider as sufficient to indicate that an apoplexy is serous, and consequently that it does not require and will not admit of bleeding, are paleness of the face, foaming at the mouth, and a small pulse: M. Portal relates several cases in which these symptoms occurred, and in which blood only was found on dissection. The following is a short statement of one of the examples which he has detailed at length.

"M. Patricot, at 68, rather bulky though not tall; deaf for some time, but more so within a few months, especially in the right ear, was found motionless and senseless the day after his return from the country in good health, to Paris. He soon recovered the motion of the right arm, which he perpetually applied to the right side of his head as if in pain; his breathing was short and sighing; his pulse very weak and undulating; his face pale and cadaverous. A surgeon in vain endeavoured to make him swallow an emetic, and Portal applied two blisters to his legs, and ordered a glyster which could not be injected. He was made to inhale volatile alkali, but he could not swallow a few drops in mint water, as was wished.

"Though I was well convinced," says Portal, "that M. Patricot was struck with apoplexy of the most formidable kind, and though so many observations had proved to me, that paleness of the face and fulness of the pulse by no means proved that it was not sanguineous, and though several cases inserted in my Memoirs, as those of Marshall Fitz-James, M. Bontin, M. Faveau and others, had

shown me the utility of bleeding; yet I durst not advise it on the present occasion, M. Patricot being as cold as ice, and his pulse being extremely small and feeble, which had not been the case in those instances to which I have referred, in which the natural warmth had remained.

"I durst not prescribe bleeding, especially recollecting the passage of Aretæus; *Cæterum si frigiditate multa, et torpore, vena minime scindenda, subluenda alvus est*; but I directed that if the heat should return, and the pulse become stronger, which might probably be the case, a dozen leeches should be applied to the neck."*

The heat of this patient did return, and his face became very red; a few leeches were applied to the neck, without drawing much blood, and he died the day after. No water was found in the encephalon; but a small quantity of blood was extravasated into the ventricles; and a black clot, the size of a large egg, was lodged in a cavity within the right hemisphere of the brain.

This example may serve sufficiently to show that we cannot ascertain by the colour of the face, and the state of the pulse, the kind of effusion by which the brain is oppressed; but it is of more importance to enquire what is the nature of that action by which the fluid is thrown out, than what is the quality of the fluid itself. A state of general fulness, or increased force in the vascular system, may for the most part be readily ascertained before the absolute stroke; and we have seen cases in spare, pale, long-necked people, in which an excessive hardness in the pulse, without any general plethora, preceded a fatal apoplexy. Practitioners however, more frequently see apoplexy only after the fit, and here the pulse is often materially changed; charged from fulness and hardness, to softness and undulation, so as to mislead the judgment of those who do not form their estimate upon the general history of the case. We should therefore say that a pale face, and even a small pulse, not only fail to prove that an apoplexy is serous, but also that it proceeds from causes different from those of strong arterial action in the head. If in any instance a watery effusion takes place from a mere laxity of the vessels, it might be expected to occur in those apoplexies which accompany general dropsy. Three examples of this kind are related by Portal; one of the Archbishop of Paris, who in 1781 was cut for the stone by Frère Cosme, at the age of 76, became dropsical some time

afterwards, and died suddenly of apoplexy, whilst his doctors were disputing whether he should drink much or little: an dissection water was found in the cavities of the trunk, but none in the head, the blood vessels and sinuses being merely tinged with blood. The second case is that of a Danish merchant, who, after recovery from anasarca, was seized with suppression of urine, and a return of his dropsy, and who died in a state of profound stupor. One kidney was scirrhus and partially suppurated; there was water in the chest and belly, but none in the head, though the vessels were greatly loaded.

“I have lost, this winter of 1809,” our author proceeds, “the Chevalier de Labentinaie, by a very similar disease. After several attacks of continued, and intermittent fevers, he fell into a general anasarca. Aperients, diuretics, and blisters had increased his water, the swellings diminished, and yet the patient perished almost at once from the most decided apoplexy, discharging a large quantity of blood by the nostrils. His body was not opened, but every thing tended to prove that a congestion of blood in the head was the cause of his death.”*

In these instances, it appears that there was decided fulness of the vessels within the head, whatever might be the state of the general system. In many other cases the same local plethora may coexist with general debility, as where the blood is obstructed in its return from the head, by tumors, diseases of the heart, &c. and on such occasions, since we cannot unload those vessels directly which are distended, it becomes our duty to calculate whether less evil will arise from a bleeding by which the body will be generally weakened, or from the local complaint remaining unrelieved. It is not always easy to satisfy ourselves of the justice of our decision. It may be said that apoplexy from obstructed circulation through the veins, is by no means common; and indeed we do not believe that it is frequent. M. Portal, however, has stated one or two cases, in which though not the sole, it was a strongly concurring cause of the disease.

“M. le Prince de Reuss, a little, but very fat man of 68, with a red and pimpled face, a short neck, a large head, and commonly a hard and full pulse, was a great eater, and resided successively in the principal cities in Europe, but preferably in Paris, living at the best tables.

“He had some threatenings of dropsy in 1804, which yielded

* Portal's Observations, &c. Page 129.

to appropriate remedies, and after their disappearance he continued his usual habits of life.

"About three weeks afterwards I was called to visit him, and was told that he was dying. His breathing was so stertorous, as to be heard in an adjoining room; his face instead of being red, as usual, was pale; and his pulse labouring and unequal, but not hard.

"It appeared that he had dined copiously.

"The patient not being able to shew me his tongue, lying without sense, I was desirous of examining the state of the abdomen: what was my surprise when I perceived that his body was tightly girt with a belt, and that his legs and thighs were swathed in strong rollers!"

This monster who was by these means striving to reduce his paunch within the curve of beauty, recovered from his attack, with little other assistance than that of cutting his laces, and died in a few months of a dropsy.*

It is well known to our readers that Dr. Monro, many years ago, made experiments to ascertain how far apoplexy was caused by strangulation or suspension; and that the result of his experiments was a conviction that it contributed very little to the death of the animal. Enquiries on the same subject, it appears, have engaged the attention of physicians on the Continent.

"Dr. Dycan, Professor of Medicine at Caen, satisfied himself by experiments on living animals, that apoplexy was, really the result of strangulation, and arose from a congestion of blood in the brain. He opened the heads of several dogs which he had strangled with a rope passed round their necks, and found the vessels of the brain, the veins and sinuses especially, filled with blood. This physician, however, by no means attributed this effect to the simple obstruction of the external jugular veins; for having tied these separately in a living dog, the animal remained half an hour, without showing any signs of disorder in this viscus."†

Now, if our recollection be accurate, for we have not the work before us, the experiments of Dr. Monro were much more decisive. That the veins and sinuses are full we are not disposed to deny, but the question is whether they are so full as by mere compression to cause apoplexy and death? The effect upon this organ alone cannot be ascertained to be fatal whilst all the other organs of the body are deprived of arterial blood by suffocation. Monro, therefore, simply

* Portal's Observations, &c. Page 222.

† Portal, 302.

opened the trachea below the noose, on the neck, by which animals were suspended; and the results were such as we have stated.

In respect to those cases of apoplexy after meals, in which the practice of giving emetics has been so much contested, some information is contained in this volume; namely the dissections of some who had perished under such circumstances; of these we shall quote the shortest.

“A mason was struck with apoplexy whilst in a public-house; he was carried home without sense or motion, with stertorous breathing, and considerable hæmorrhage from the nose. I saw him on the third day. The surgeon in attendance had not bled him, though he had every sign of plethora, from the prevalent injurious opinion that bleeding is unsuitable in apoplexy occurring at, or soon after a meal. The man died and was opened. A great quantity of blood was found extravasated between the membranes of the brain, and within the ventricles. The cavities of the heart, and the vessels of the lungs, and belly were also full of blood.”*

When a man is hanged, or drowned, or long exposed to gasses which contain no oxygen, the whole mass of his blood becomes venous, and he probably dies from the general deficiency of arterial blood throughout his body. Recent experiments, however, have shown that if venous blood be injected through the carotid artery upon the brain, the presence of arterial blood in all the rest of the body, is insufficient to keep the animal alive. When, therefore, a man becomes apoplectic from the fumes of charcoal, what is his state? Is his head loaded with blood, or is he suffering from a change in its chemical quality. Hunter maintained that in almost all cases of asphyxia bleeding was improper, and in Dr. Babington's case of asphyxia from fixed air, it seemed pretty clearly to be injurious.† Our author is in a great measure of an opposite sentiment; “if the pulse be full, and especially if the breathing be stertorous, bleeding is not to be avoided.” He does not, however, appear to have seen many cases of this description.

“Apoplexy from mephitic gasses and narcotic poisons, is much more rare than carus from the same cause.

“Those who have asphyxia, are reduced to a state of apparent death, without sense, motion, respiration, or pulse; they long

* Ibid. Page 37.

† Medico-Chirurgical Transactions, Vol. 2, page 84.

preserve their heat and the flexibility of their limbs, the countenance being of its natural colour, and the eyes brilliant.

"But when the patients have a free, large, and full pulse, when their breathing is distinct and soft, they are in a true carus."

"At other times, but these are rare, stertorous breathing, and decided apoplexy follow the inhalation of mephitic vapours. Yet I speak rather on the authority of authors, than from my own observation; having never seen such an apoplexy proceeding from narcotic."[†]

"Experience has shown that in all these cases of asphyxia, carus, and apoplexy from mephitic gasses and narcotics, it is right to expose the sufferers to the open air, to sprinkle cold water first gently on the face, and then on the rest of the body. These means are alone sometimes sufficient; but if the stupor continue, the lungs should be inflated by the nostrils, or mouth; a mild oxyerate should be given, by the mouth, if there be power of swallowing, and in all cases by glyster; stimulant injections may also be administered, but as to tobacco, it does more harm than good, being itself narcotic."[†]

The kind of affection produced upon the brain by these substances, still remains, in our opinion, extremely obscure, and worthy of more minute enquiry, more, perhaps, for the furtherance of physiology, than of medicine. We do not, however, think that the propriety of bleeding in such cases has been either sufficiently ascertained or refuted.

From the foregoing extract, it appears that cases of carus were considered by Portal, as well as by Dr. Cheyne, of a nature distinct and different from apoplexy. A few cases are given of these diseases of somnolency, with remarks on the treatment. The distinctive symptom between apoplexy and carus he considers to be stertor. This distinction appears to us very insufficient, and we prefer that of Dr. Cheyne, though applicable only to the minor degrees of the same affection, viz. the perfect possession of the muscular power, when the fit of drowsiness is absolutely shaken off by forced exertion. In the treatment Portal recommends antispasmodics, as camphor, musk, opium, &c. and blisters, purges, and bleeding where the state of the pulse indicates the propriety of depletion. No dissections are given; and this is, in fact, one of the least satisfactory parts of the volume.

* Portal, Page 273.

† Ibid., Page 297.

It has been taught by some practitioners of repute, and, we believe, more particularly by Dr. James Hoult, Professor of Materia Medica in Edinburgh, that apoplexy from drunkenness, is not to be treated by such copious bleedings as would be requisite on other occasions. This caution, no doubt, proceeds from the conviction that drunkenness is a state of indirect debility, or exhaustion, in which bleeding might be fatal. It is known, too, as a matter of fact, that the per-vigilium of drunkards, or that urgent disease which is known in some parts of the island by the name of brain-fever, a name very justly bestowed seeing that it differs both from mania and common phrenitis, can be successfully treated only by stimulants.

"We ought not," says M. Portal, "to confound the apoplexy of habitual drunkards, with that which is the effect of a single debauch, or excess in eating and drinking. In the latter the brain may be in the best possible state of health before the meal, and prove itself to be so by the perfect general health of the individual. Apoplexy, in this case, is to be attributed to the excessive distension of the stomach, which by its pressure on the vessels in the epigastric region, causes a reflux of blood towards the upper parts of the body, and more especially the head, the vessels of which are gorged, either without bursting, or with extravasation of blood between the membranes, or into the ventricles of the brain. This blood is either pure or mixed with serum; or this latter may be the only part of the blood extravasated."

"On the other hand, those who are addicted to drinking wine or spirits largely have a certain tendency to apoplexy. The substance of the brain, in such persons, becomes more dense, if not throughout its whole structure, at least in many parts; and the vessels are more or less dilated and filled with blood; so that I have found on opening some bodies, what De Haen had also remarked, that the pia mater was covered with greatly distended vessels, not only at the surface of the brain, but also throughout its convolutions; and that the left ventricle contained an ordinary spoonful of extravasated blood, and the right nearly the same quantity."

No difference of practice, however, appears to be founded upon these wide differences in the state of the brain; and it appears to us that whether the disease consists in serous effusion or extravasation of blood, the indications are the same. The serous effusion is an increased secretion, caused by vascular plethora, and a condition not very unlike that of inflammation. Sanguineous apoplexy arises from rupture of the vessels by the impulse of the circulation or extraordinary distension, from accumulation of their contents. In both cases the object

must be to diminish the force and quantity of the circulating fluids, and the perusal of both these volumes has tended to establish in our minds one great practical conclusion—that in every variety of apoplexy, except probably that caused by mephitic vapours and the use of narcotics and habitual stimulants, vascular depletion is the proper remedy.

We do not think it necessary to follow our author through all the minute details which he has given of the various forms, and shades of this disease. He has written separate articles, and some of them by no means short, on inflammatory, catarrhus, gouty and rheumatic apoplexy: on apoplexy in emphysema, in fevers, from excessive fat, from steatoma, from scrophula, from moral causes, from bodily pain, from hysteria, from the puerperal state, from venery, and from a variety of other causes. His book, in this respect, has more the air of a Dutch or German production, than that of a Frenchman. It is, however, quite a Dictionary of the facts relative to this interesting disease, and we regard it as of very great value. We have selected the most important parts of the subject for quotation, in order to give a fair specimen of the work, and of Parisian practice.

This practice seems to differ from our own chiefly in the frequent use of emetics, in the application of blisters to remote parts instead of the head itself, and in the application of leeches, not so much to the temples, as to the anus, especially after a suppression of hæmorrhoids, or to the labia pudendi when the menses have failed to appear at their usual time. How far these usages are better than our own, the readers of Mons. Portal must decide for themselves; some of them, especially the last, it would not be easy to introduce into this country of *mauvaise honte*, though the young ladies of France appear to submit to it without any struggle. The general and domestic use of glysters in France is well known to our countrymen, as well as the convenient instruments adapted to their administration. Nevertheless our author has surprised us by an account of the constant and systematic manner in which they are sometimes employed.

Madame Cour, about 36 years of age; had some hysterical and spasmodic complaints, sometimes attended with considerable stupor. For these, among other remedies, it was thought necessary to give her an opiate julep.

The lady herself wished also to be indulged in the use of injections, formed of a decoction of several poppy heads, and she had recourse to them, whenever she felt irritation or spasms, which happened often. This treatment succeeded; the convulsions abated.

ed, but the narcotic fomenta could not be relinquished. The patient is at this moment so much accustomed to them, that she is obliged to take two or three every day, each with ten or twelve heads of the white poppy. The singularity of the thing is that, with a view to economy, she has rented a field full of poppies, in order to secure a sufficient supply, at a moderate cost."

ART. II. *Clinique Chirurgicale, ou Mémoires et Observations de Chirurgie Clinique, et sur d'autres Objects relatifs à l'Art de Guérir.* Par Ph. J. Pelletan, Chirurgien consultant de L. L. M. M. I. I. et R. R. &c. Chirurgien en chef de l'Hôtel Dieu, &c. &c. &c. 3 Tomes, 8vo. Paris, 1810..

(Continued from page 126.)

THE memoirs on external aneurisms bear the same character as those we have already noticed. They contain valuable cases narrated with a particularity which is by no means irksome. The author is sometimes a little prolix in detailing his opinions, which do not appear to us to be always borne out by the cases on which we are to suppose they are founded. But the histories of the diseases are in general given with spirit, and with a familiarity of expression which at once convinces us of their fidelity. In the first of the memoirs before us, the reader will find many cases possessing much interest, and well deserving of being recorded. There are others which may, perhaps, appear somewhat "stale, flat, and unprofitable" to an English reader, who contemplates the rapid advance which within a few years has been made in his own country, in this important branch of surgical practice. Certainly the perusal of the memoirs on external aneurisms has tended strongly to confirm in us an impression of the comparative pre-eminence of our knowledge and our practice on this subject.

In cases of popliteal aneurism, M. Pelletan still prefers the operation in the ham, where there is reason to apprehend that the aneurismal deposit will not finally be absorbed. When it is probable that it will give rise to sloughing or ill-conditioned abscesses, he thinks it far better to lay open the whole of the tumor, and wash out its contents, filling the cavity with lint. Hunter's operation, he prefers when from the

nature and condition of the aneurism, he thinks that absorption will most probably take place; and more especially when the aneurismal tumor is at a distance from the spot in which the operation is performed, in front of the thigh. As the foundation of these opinions he gives some cases in which the patients died from a subsequent suppuration in the aneurismal tumor; and one in which the patient was destroyed by hemorrhage from the femoral trunk in consequence of abscesses communicating with the aneurism in the ham.

The serious danger which is likely to arise from a communication being formed between the wound in the thigh, and the contents of the aneurismal sac, may in a great measure be obviated by tying the artery at a great distance from its diseased portion in the upper part of the thigh. It is to be prevented also by procuring the healing of the wound by adhesive inflammation. With regard to the other objection, we know that patients have died from sloughing, or suppuration of the aneurismal tumor after the operation, but we have also seen absorption take place when the tumor has been almost in a sloughing condition before the operation. If the swelling is advanced to the stage in which its bursting is inevitable, it is not in a state most surely in which it would be advisable to lay it open, and to attempt the ligature of the artery above and below the sac. The author in the cases which terminated fatally, opened the tumor in the ham at some distance of time after the operation. It may be thought that he acted injudiciously in so doing. But it is probable that the tumors would very soon have burst, as they had gradually increased in size, and became softer and more painful after the operation, though all pulsation in them had ceased from that instant. The nature of their contents at the time of opening them fully proves also, that the resolution of the swelling was not to be expected, while the health of the patient was daily suffering from its presence.

The great success which attends the performance of Mr. Hunter's operation in the present day, and the happy extent to which this principle has been carried in operating on aneurisms of other arterial trunks, are circumstances strong enough to convince any unprejudiced person of the superiority of the practice to that of laying open the aneurismal tumor. We may say therefore, appeal to facts, without taking into consideration the many good reasons which led to a trial of this mode, when its success was yet problematical. It is to us a matter of surprise that M. Pelletan should still hesitate, and even adhere with a kind of parental fondness to the severe and hazardous

operation in the ham, which is done in France, the usual practice is to remove the ham before his time, the amputation of the ham.

In the course of this memoir, the author discusses the subjects of making a single, or double ligature, and dividing the artery in the interspace; and of tying the artery on the distal side of the tumor in some particular cases of aneurism. But he evinces no great degree of knowledge on these points, nor does he adduce any facts which have novelty or strength of arguments which have ingenuity to recommend them.

In the second and third volumes, the author, at a considerable length the histories of some particular kinds of aneurism, and of bloody tumors analogous in their nature to aneurism; and also of some aneurisms remarkable chiefly from situation and extent. The cases are mostly of importance, but they are not well arranged; and some of them, perhaps, are incorrectly placed here, as they do not in their nature, or in the means required for their cure, at all resemble aneurism. It would be better, whilst we remain in ignorance of the structure or formation of a morbid swelling, not to confuse it with those of which the history and treatment are simple and well understood.

In the year 1786, M. Pelletan proposed, and was prepared to tie the artery below the clavicle in a case of axillary aneurism. His intention was to divide the clavicular attachment of the pectoralis major, but he was over-ruled by the surgeons present, who thought it best to include the muscle in the ligature with the artery. The curved needle was pushed in at a venture, but, as might be foreseen, did not surround the artery. The tumor underwent no alteration, and the patient died a few weeks afterwards. On dissection the practicability of the operation proposed by the author became very evident. The artery was readily exposed above the aneurism, and might have been secured without difficulty, and with little disturbance. In another case of axillary aneurism no pulsation was perceptible, and the tumor was at first punctured as above. From the size of the tumor the shoulder was so much elevated, so as to render it impossible in the author's opinion to tie the artery above the clavicle; from the situation of the aneurism there was not room to do it below. The covering of the tumor sloughed, and the patient died from hemorrhage. On dissection he found a dilatation of the artery of no great extent, with a recent rupture in the dilated part, and an extravasation of blood constituting the

tumor. Below the aneurism the artery was obliterated for a considerable space.

In a case of extensive vascular dilatation of the arterial branches on the side of the head and face, M. Pelletan attempted a cure by a methodical compression of the external carotid artery; but the patient was unable to support the pain even for a short time. He then made a very awkward attempt to tie the artery in front of the ear. His patient was unruly and the needle passed through the vessel. Still this particular ligature, aided by compression, had a manifest effect in diminishing the pulsation in the branches above it. The patient soon after died suddenly from another cause. M. Pelletan relates also another very similar case, in which the patient refused to consent to his proposal of tying the carotid. In the *nevi materni*, or vascular tumors of infants, which may be termed congenital aneurisms by anastomosis, the author has employed compression with much advantage. The success of this mode if well conducted, is we believe generally acknowledged, though it is not, perhaps, so frequently adopted as it deserves to be. In a case of this kind the celebrated Morand divided the tumor which was situated on the forehead. To restrain the profuse bleeding which followed, he employed very strong caustics. The child was seized with convulsions and died. On examination a deficiency was found in the frontal bones opposite the tumor, and the dura mater beneath was highly inflamed.

In some of the cases M. Pelletan describes a disease which he terms aneurism by erosion, and which he compares with that described in the well known case related by Mr. Pott. Two of these from the picture he draws of them appear very like what we have in this country classed under the name of fungus hæmatodes. There is however, yet a little obscurity in the history of this most formidable malady; and we should be aware that from a wish of simplifying disease we may be too hasty in generalizing, or classing under one comprehensive title, diseases alike in their intractable nature, but in many points dissimilar. We cannot here notice any other of the cases, but we may observe that although the treatment pursued by the author in many of them, does not always accord with what we have been taught to consider as the best, and does not impress us with any very high ideas of his knowledge in this part of surgery, the cases themselves are valuable on many accounts. They generally possess much interest, and are many of them such as fall to the lot of few to observe. No

opportunity is neglected, of illustrating the real nature of the disease by minute dissections. Nothing is concealed. He acknowledges throughout his work, what he considers errors in his practice, as openly as he plumes himself on his knowledge and skill. In our opinion he deserves the thanks of the profession for the publication of many important facts, which he justly considers of too much importance to be allowed to die with him.

The remaining memoirs in the first volume are on the subjects of obscure syphilitic diseases, and forensic medicine, "*medicine legale*." In the first the author advances some opinions which by many of our readers will be regarded as old fashioned, and utterly exploded. They are given here as the result of long experience, and careful observation; and they will be read with interest by those who think with us. What although much has been effected by the acuteness and good sense of Mr. Abernethy, much yet remains to be done to complete the investigations into the nature and cure of those multiform diseases, which in some of their characters often resemble syphilis, though the accuracy of modern pathologists has shown that they differ from it in others. M. Pelletier endeavours to prove the influence of a syphilitic taint in the constitution on many complaints which are on that account only both obstinate and severe; the continuance of such a taint in the habit, whether observable in the individual, or only in the children of a mother to all appearance sound, and the return of the syphilitic symptoms after many years of apparent health and freedom from the complaint. The remedy he has employed in these supposed secondary, or as he terms them, chronic forms of syphilis, is the oxy-muriate of mercury; and from the accounts before us it would seem with marked success. The cases are taken from the author's private practice; and the subjects of many of them are individuals whom he has been able to watch for a long series of years, and with the previous and subsequent histories of whose lives he was familiarly acquainted. He observes that little can be learned from hospital practice in these cases, as in general our patients are quickly passing visitors of whom we know nothing, and whom probably we never see again.

The memoirs on forensic medicine contain nothing which we can well extract. They place the author in a favourable light; and they are of value as exhibiting by actual occurrence the great necessity of caution in our reports. In truth there is no part of the important duties resting on our heads which requires from us more ready and accurate knowledge,

or more impartial and dispassionate investigation than one in which the life and the honour of individuals depend sometimes wholly on the evidence we are to give. General directions as to our proceedings can be but of little use, where every case has its peculiarities. A just man will never forget the wide difference between uncertain, variable opinions, and demonstrable facts; and the man of science will be ever ready to distrust his own judgment, if he is not conscious of possessing a thorough knowledge of the subject under inquiry.

The next memoir on effusions of blood is divided into several parts, according to the different terminations of this accident. The author considers the decomposition of the effused blood to be the principal cause of all the train of bad symptoms which occasionally follow it. And he endeavours in these observations to prove the correctness of his opinions by a variety of cases; some shewing the little disturbance produced by very considerable effusions if no decomposition took place; and others the dangerous consequences which invariably followed if from any cause a decomposition was effected. He examines also the various circumstances which immediately produce this alteration, the means of preventing it, and the best method of combating its baneful effects where the prevention of it cannot be accomplished.

In the first part, on the termination by resolution, we find several cases, selected from the many which he met with in an immense hospital, of effusions into serous cavities, and into cellular tissue. The visible marks of the first were found in some of these instances a very considerable time, in one more than twenty years after the accident which produced it.

In the cases of effusion into cellular tissue in different parts, we have some striking instances of the diffusion or dispersion as it were of the blood from its primary situation, and its appearance in parts, unhurt and remote from the injured spot, a considerable time after the accident. The varying discoloration of the skin for some way round a bruise, caused by the gradual diffusion of the more fluid parts of the extravasated blood, and the chemical changes it undergoes, is familiarly known, and is justly considered as a favourable sign. But some of our readers may not, perhaps, be aware of the great extent to which this diffusion occasionally reaches; in some cases to parts as distant as possible from the injured region, especially if they abound in cellular tissues, and are from any cause in a more depending situation.

If the blood is not absorbed after some weeks, and the sur-

rounding parts are in a quiet state, and the fluctuation distinct and circumscribed, he has in some cases opened the tumor, pressed out its contents, and by regular compression has speedily effected an obliteration of the cavity. In severer cases the parts are too much bruised to recover their healthy action, and they slough, or they become inflamed; pus is secreted and mixed with the effused blood, which is speedily decomposed. The consequences are sloughing, and ill-conditioned abscesses. Where matter is collecting the author promptly lays open the tumor; in some of the cases related with good success; in others no benefit is derived from it, on the contrary the large openings appear to have brought on very dangerous symptoms, and to have hastened, if not caused the death of the patient. Fatal consequences were found also to occur after opening the tumor not only in the cases in which from the violence of the injury the parts were essentially damaged, or inflamed, but in those also where the collection was blood alone, and the parts comparatively indolent and quiet. The author attributes all the bad symptoms in the latter cases to the opening being large, and the contents not being all carefully pressed out. He insists with much earnestness on the necessity of attending exactly to the last circumstance, and of afterwards keeping the sides of the cavity in contact by constant gentle pressure. He appears to have a great dread, and we think a most reasonable one of exposing, and only partially evacuating a large cavity in such cases. Attributing all the disorder which follows to the decomposition and absorption of the remaining blood, he would rather expose the whole cavity by a free incision, wash out every particle of blood, and fill it with lint, than give room for such an occurrence by partial evacuation from a smaller opening, if the latter were not instantly closed. Openings made to let out collections of blood immediately after its effusion, are often attended with the best success. If made at a more distant period, the sides of the cavity often inflame, and much disturbance follows. Where inflammation is induced by the original injury, or by any other cause, and an effusion of pus takes place, we have to deal with an abscess which usually breaks quickly, and which seldom therefore, requires to be opened, unless the fluid be confined by fascia.

In the latter part of this memoir the author enters into a disquisition on the nature and composition of the blood, with a view to explain some of the phenomena observable in the progress of effusions of blood towards absorption, or the formation of putrid abscesses. In the same spirit he examines

the chemical action of different substances on the blood in the hope of ascertaining the most active and effectual means of arresting the progress, and preventing the fatal effects of such abscesses whether opened spontaneously, or by the hands of the surgeon.

The memoir on hæmorrhages is styled by the author an elementary one. It is neatly written, and consists of sound and well delivered precepts illustrated by cases in the different methods of arresting bleedings of whatever kind. Perhaps there is no part of surgery in which an able surgeon is at once better distinguished from a bad one, than in the treatment of hæmorrhage. The one does nothing, or nothing to the purpose, in the foolish hope that each bleeding will be the last that will occur; the other follows the danger to its source, and is not satisfied till he can command the flow of blood by efficient means. In cases where a ligature is inapplicable from the nature of the hæmorrhage, or the situation of the vessel, the author applies compression, and he here relates cases of its efficacy in important bleedings under various circumstances. It should be applied if possible immediately on the bleeding point. He remarks with great truth that pressure carelessly applied, far from checking hæmorrhage, is often a cause of its continuance, and insists particularly on the necessity of exactness and method in our proceedings. We shall all agree also with our author, that the presence of coagula between the vessel and the compress is a complete impediment to the due action of the latter. This not unfrequently happens when the wound in the integuments is small, and it is a maxim not to be forgotten, that until the coagula are removed by a free incision of the integuments, we cannot for one instant depend on compression however accurately applied.

M. Pelletan has employed the actual cautery with great success, and he prefers it to the potential cautery, or styptics, in obstinate bleedings, where no vessel can be tied, where compression cannot be accurately applied; or is found to be of no avail, and where at the same time from the minuteness of the bleeding vessels, there is no fear of fresh hæmorrhage on the detachment of the slough.

Amongst the cases of death from the bleeding of small vessels, is one of an infant who died from the bleeding produced by leeches applied to the chest. That such accidents occasionally occur we have no doubt. The profuseness of the bleeding in infants, and the means generally advised and employed to encourage it without reference to this fact, often occasion so copious a loss of blood as imminently to endanger the life of

the child, or to reduce it to a state of debility from which it does not immediately revive.

The last memoir in the second volume is on physiology. In it the author wishes to prove that the laws of general physics are applicable to every part of the system of the animal economy, and that in no other instance are they so evidently, and unequivocally demonstrable. In this attempt to revive in some degree what may be called mechanical physiology, he ridicules the doctrine of attributing all the phenomena of a living body solely to the influence of a vital principle, or to any peculiar properties inherent in living matter. We are far from considering the prevailing opinions in physiology as perfect; they are ingenious, but they are many of them conjectural, and in some points extremely defective. Still they proceed from more enlightened views, and are more correct, we must think, than a doctrine which considers the process of animal exhalation to be nothing but physical evaporation; which explains absorption by the laws of attraction in capillary tubes; and the circulation by the compressibility of fluids and the elasticity of arteries. We mean not to say that an animal body is exempt from the action of physical causes. We believe that they operate generally, and extensively in the animal economy: and that we shall widely err if we omit the consideration of them in our endeavours to explain the varied phenomena of animal, or organic life. All our observations go to prove the nicest mechanical structure, and adjustment of parts for the different purposes they are designed to execute. But to suppose that the body is merely a machine, and that when put and maintained in action by an imaginary principle of life, the functions are all executed mechanically, and according to physical laws exclusively, is at least quite as absurd as to attribute every thing to the individual properties and energies of living matter, to the exclusion of external agents, and of those general principles which are known to operate universally, though their action is modified according to the qualities of the bodies on which they act.

The third volume contains two memoirs on hernia, with others on the subjects of diseases of the heart, of effusions into the chest, and of amputation.

The memoirs on hernia consist almost wholly of cases, with a few remarks on each. To follow the author through these would be inconsistent with the brief notice which a review permits. Nor is it an easy matter to present the author's opinion on any given point relative to this disease. Perhaps there is no subject in surgery on which so much has lately been written,

or so well written as on hernia. It may be thought by a few that enough has been said to exhaust the topic, and that any surgeon possessed of the information which our recent publications afford, will not feel himself at a loss how to act under whatever combination of untoward circumstances the complaint may show itself. Yet from a faithful record of extensive personal experience there is always something to be gleaned, were it only a knowledge of the variety of forms in which a disease has actually occurred, and of the unforeseen accidents which have practically called forth the skill and knowledge of able men.

M. Pelletan is apparently unacquainted with the nicer distinctions of English surgeons with regard to the anatomy of hernia; or at least he nowhere notices them. We have not one direction as to the best mode of operating, but very many as to the best season. No remarks on the situation of vessels which may be endangered by the knife, but numerous observations on the difficulties the surgeon may have to encounter in complicated cases, and on the readiest means of overcoming them.

The first memoir is divided into two sections. In the first M. P. describes varieties in the external appearance of hernia, with respect to form, volume, and situation. Amongst the more remarkable cases are some of ventral hernia, caused by pregnancy. In one of these nearly the whole of the great and small intestines, with a portion of the stomach, were found in the hernial sac. The author introduces also in this place some case of loose fatty tumors, in form and situation strongly resembling hernia. As such cases are not generally known, and have been rarely noticed by others, we shall follow the author through his account of them.

In a male subject brought into the dissecting room many years since, he observed two swellings corresponding to the openings of the abdominal rings. They were rounded in form, extending on each side into the scrotum. Their softness, and the inequalities of their surfaces made him look on them as omental ruptures. The facility with which he was able to reduce them confirmed him in this opinion. On dissection he at first observed a membranous sac, slightly adhering to the cellular tissue of the scrotum and neighbouring parts. On opening this he found a mass of irregular form, with many processes also loaded with fat, resembling the appendices epiploicæ of the colon. The whole was included in a smooth polished membrane like peritoneum. It was pushed up and brought down again through the ring, the

sac following the tumor. On examination from the abdomen, he was surprised to find the omentum at a distance from the ring, and in no respect concerned in the formation of the swelling, which was found to proceed from a part between the peritoneum and the posterior surface of the bladder. From this place a mass of cellular tissue loaded with fat, was continued in the direction of the abdominal canal through which it passed, drawing with it the peritoneum by which it was immediately covered, and pushing before it the peritoneum occupying the internal opening of the ring. In this way a perfect sac of peritoneum was produced, corresponding to the fatty mass which projected into it, as the testis projects into the tunica vaginalis. It communicated freely with the abdominal cavity, so that both intestine and omentum might have passed into it, though this does not appear to have happened in this instance. The formation of this species of herniary tumor, if the term may be used, may be compared to what takes place in the descent of the testis. The author describes some other varieties of this tumor in different situations, all of which most probably in the living subject would be mistaken for ommental hernia. They occurred most frequently in fat subjects.

The second section contains cases of strangulated hernia in which the operation was performed with success. The author's object is to point out the circumstances on which this fortunate issue may be thought more immediately to depend. The cases present a considerable variety of treatment arising from the different symptoms, and peculiar circumstances of each. But, though they offer much that is important, we do not find any thing that is new in practice. It is well known that the indications after the reduction differ widely in various cases, and that we have often to combat the disease consecutive to strangulation, after the total relief of the strangulated part. The propriety also of operating early, and of pursuing a strenuous depleting and antiphlogistic treatment after the operation in the acute form of hernia are points well established in surgery. Some of the cases are complicated, but not so much as to be considered very uncommon, or requiring any extraordinary management.

M. Pelletan relates several cases of artificial anus, in consequence of mortification of the intestine; and one the consequence of a wound inflicted during the operation. In one of these the opening closed, in the others it remained during life. In a case after crural hernia, the patient continued doing well with the external opening closing, whilst she was confined to a

low and regular diet. After eating freely of improper food, an accumulation took place above the opening, and brought on very dangerous symptoms. The opening was enlarged by the knife, and the symptoms were speedily removed. The same accident occurred from the same cause a second time. The patient refused to submit to any operation, and died. It appeared on dissection, that the adhesion between the intestine and the opening had given way, and that the contents of the bowels were poured into the abdomen. From this and from other cases he takes occasion to argue against the practice of attempting to cure an artificial anus by compression. If the passage from the upper to the lower part of the gut opposite the opening is so far continuous and free as to allow of the fæces being partly evacuated by the anus while the patient observes a temperate diet, the opening may generally be brought to close by continuing the same abstemious diet, by rest, and by the frequent use of glysters. Compression in this case is injurious, as it prevents the partial evacuation by the wound before the tube is sufficiently dilated to allow of a free passage downwards. As the natural course becomes less obstructed, the external opening will contract without assistance. If no fæces pass by the anus, while the patient is confined to a moderate and liquid diet, the author thinks any attempt to close the opening dangerous; he advises a more generous diet, and takes care to preserve the freedom of the unnatural opening.

In the second memoir on hernia, our author takes into consideration the general causes, as well as the accidents and complications in the disease which render the operation of no avail, either because they are not rightly understood at the time of the operation, or because they are in their nature so vitally dangerous as to place the case beyond the assistance of art. Although M. Pelletan is evidently a vain man, he is always open and honest in his relation of cases, and exposes his own errors without any reservation, if he thinks he can thereby improve the science. The cases he here gives derive an additional value from the cause of death being always authenticated, and made evident by dissections. Our limits however, will not allow us to make any selection which would be satisfactory, although we are sure that an attentive perusal of these cases cannot fail to impress some important lessons on the minds of many of our readers.

The memoir is divided into three sections. In the first are

arranged the cases which terminated fatally from the nature of the stricture. In some of these the hernia could not be reduced; in others when reduced it was still tied by an internal stricture. In one instance the author in returning the intestine after dividing the stricture, committed the mistake of pushing the former between the peritoneum and the muscles. The symptoms of strangulation continued, and the patient died. This accident we have seen occur in one of our own hospitals, and in the hands of a very good operator. The bistoury was passed between the sac and the edge of the tendon in dividing the stricture, and the intestine instead of receding as it should do into the abdomen, was pushed by the finger into the artificial recess prepared for it by the knife, so as to remain completely strangulated.

The second section contains cases which terminated fatally from the intenseness of the inflammation, or from the delay of the operation, the progress of the symptoms not being at all arrested by the relief of the stricture.

The third section contains cases of crural hernia. M. Pelletan considers these in general as less rapidly dangerous than inguinal ruptures. He, says "the inflammation which in inguinal ruptures spreads so quickly, is slower and more uniform in its progress in crural hernia; and it is more from a conviction of the final necessity of operating for the relief of the stricture, than from the urgency of the inflammatory symptoms that the surgeon decides on operating." His cases however, do not all bear him out in this opinion, which differs completely from that expressed by the best writers on the subject in this country.

The memoir on some of the diseases of the heart does not offer much that is new. It contains some cases of acute and chronic inflammation of that organ: some of effusion into the pericardium not distinguished during life; and others in which the existence of a fluid in that cavity was regarded as certain, yet no more than the usual small quantity was found after death. He relates two instances in which the valves at the opening of communication, between the left auricle and ventricle were found much diseased, and the opening very considerably narrowed. He considers this case as rare, and not hitherto described.

In the subject of one of the cases in this memoir, an ulcer was found in the right ventricle, which had nearly penetrated through its substance. The patient had been ill for some months with inflammatory symptoms about the chest, at the

commencement of the disorder, and fixed pain in the region of the heart towards its termination. The author relates also a case of degeneration of the muscular structure and powers of the heart, and another of passive enlargement of its cavities.

In the memoir on effusions of fluid into the chest, and the propriety of withdrawing them by an operation, M. Pelletan gives many pertinent and original observations which are the more valuable as these disorders are obscure, are frequent in their occurrence, and highly dangerous in their nature. In different sections he discusses the management of effusions of blood, of pus, and of serous fluid. In the first he thinks an operation scarcely ever advisable, unless there be symptoms of a decomposition of blood with purulent effusion; unless, in short, the case becomes analogous to one of a simple collection of pus. In this second kind he distinguishes the symptoms of collections formed in the cellular tissue without the pleura, from those within its cavity. Abscesses between the pleura and the bones surrounding it, both in an acute and chronic form, are by no means uncommon. They should be opened early. In a sound habit, and not attended with caries, they heal spontaneously without any particular management. In the contrary case they are at best tedious, and frequently fatal. The author relates some instances of very large collections in the anterior, or posterior mediastinum, accompanied by caries of the sternum, or dorsal vertebra, which terminated fatally soon after they were opened. He much deprecates the practice of opening such abscesses, especially those produced by a disease of the vertebrae, as he has invariably found that the death of the patient was at least hastened by the operation. His practice is the same, being founded on the same principles, as that adopted by Mr. Abernethy in the case of lumbar or psoas abscess.

Pus in the cavity of the pleura, may be secreted by the diseased surface of that membrane, or may proceed from an abscess in the lungs, or in the cellular tissue surrounding the pleura. The symptoms of such effusions are sometimes illusory, and the knowledge of this circumstance should put us on our guard. Our author strongly advises that the matter should be withdrawn by puncture. If the collection be circumscribed, and there be any external appearance indicative of this, the opening should be made at that point; but if there is not a projection he makes the opening between the second and third false ribs. He does not allow all

the matter to flow out at the time of puncture, but introduces a small strip of lint into the opening, so as to permit it to ooze gradually away, covering the whole with compresses, and a moderately tight bandage.

In dropsy of the chest he does not expect much advantage from evacuating the water, unless at the same time the cause of the effusion could be removed. If any operation is performed, he advises that it should be done in the manner recommended above.

In the memoir on amputation, the author touches on the cause which requires this operation, and describes briefly the different modes of performing it. He prefers with some little variation that described by M. Louis in a masterly memoir on this subject in the *Memoirs of the Academy of Surgery*. But we were utterly surprised to find him averse to one of the most capital improvements in modern surgery, the attempt to make the cut surfaces unite by adhesion in the first instance. We had thought the practice to have been universally adopted, as one founded on the soundest principles, and confirmed by every day's experience. M. Pelletan prefers dressing the stump with lint which he applies to the cut surface, making no attempt to bring the skin over the wound until the whole is covered by granulations. He says that by a practical comparison of this mode with the one generally followed, he is well satisfied of its superiority. He gives many reasons for his preference. The principal are, that the skin can seldom be placed or kept in accurate apposition with the uneven surface of the muscles: that in almost every case some blood oozes from so large a surface, and is collected in the interspace, becoming the cause of further effusion: that frequently the bleeding is such as to require an exposure of the stump; and that where it does not proceed to this length, it becomes decomposed, and gives rise to ill-conditioned suppuration with serous discharge, preventing all union by adhesive inflammation, and producing a caries of the bone. So that after no little risk, and much constitutional irritation, the patient is really in a worse situation than he would have been if the stump had been left open at first, and no approximation of the cut surfaces had been made until the suppuration of the wound was declining.

We cannot but think that the author has magnified the accidents which prevent the immediate closure of the stump, and described as occurring generally, that which happens but very rarely under the hands of a careful surgeon. We

have certainly often witnessed cases in which it has been necessary to remove the dressing on account of considerable bleeding; and others in which a deposit of extravasated blood between the muscles and the skin, has caused all the evils he points out. We think these accidents have occurred more particularly in hospitals, in which for the instruction of the students it is the custom to dress the stump immediately on the operating table. This is often done while the patient is yet faint, and cold. The removing him afterwards causes some disturbance; and as the warmth returns in bed, and the force of the circulation is restored, effusion often takes place to a considerable degree. The best practice is not to dress the stump until the patient has been some time in bed, and is recovered from the shock. If the wound is then carefully cleaned, and the cut surfaces accurately brought together, and kept so by gentle compression, hæmorrhage will scarcely ever occur, nor will more be effused than the lymph necessary for the adhesion and union of parts. So little risk is there, indeed, of serious bleeding, and such is the quickness and ease of the cure in most cases, that we cannot for a moment hesitate to prefer the means which effect it, to the painful, and unnecessarily lengthened course pursued by our author.

We close this analysis if not with feelings of admiration for eminent talents, certainly with those of respect for considerable zeal for the improvement of surgery. M. Pelletan's contributions to the stock are numerous, and many of them of a value sufficient to make us sincerely hope that he will fulfil his promise of adding to them.

REV. III. *An Examination of the Mineralized Remains of the Vegetables and Animals, of the Antediluvian World, generally termed Extraneous Fossils.* By James Parkinson. In three Volumes. Volume 3, containing the Fossil Star-fish, Echini, Shells, Insects, Amphibia, Mammalia, &c. 4to. pp. 455. London. Sherwood & Co. 1811.

(Continued from page 167.)

WE gladly resume our critical examination of Mr. Parkinson's third volume, and in justice to the author, shall deviate from our usual plan, as to insert the following, for which he has addressed to us since the publication of

our last number. It evinces a mind admirably adapted to that kind of scientific research, where truth is elicited from the collision of opposite opinions; and we regret more than ever, that professional avocations should have been the cause of inaccuracy in a work that cannot fail even in its present state to do the author great credit.

"To the Reviewer of Parkinson on *Extraneous Fossils in the London Medical Review*.

"For the liberty here taken of addressing my candid reviewer through the dread veil interposed between us, I must plead the pleasure of holding communication with one well-informed in those pursuits, to which I acknowledge myself much addicted. Besides, it cannot but be desirable to enter into such explanations as may prevent a master in the science from entertaining too unfavourable notions of one who is desirous to lose no opportunity of gaining instruction. But here I have to regret that circumstanced as we are, I cannot obtain the benefit of your answers to the present remarks, unless you would kindly allude to the few topics on which I may request your opinion, in your subsequent critique, or in your answers to correspondents.

"1. With respect to the epithet *secondary* as applied to fossils, I confess it does not appear to me to possess more ambiguity, as implying inferiority of value, than when employed as designating rocks not possessing their primary modes of existence.

"2. On my failure as to the nomenclature of particular fossils you have very justly dwelt. I had originally proposed to have distinguished all genera of which no recent analogue is known by the termination *ite*; but was deterred by the consideration that in every case in which a recent shell of the same genus might afterwards be discovered, confusion would arise, the name adopted would be wrong, and a change of nomenclature become necessary. Thus even the term *Orthocentrites* is now improper, since recent shells of that genus are known; and thus even the remarkable genus *Trigonia*, which a very few years since was considered to be so very different from any known bivalve, that it would have particularly claimed the fossil mark, is now found to contain recent species. This difficulty when considered as to species became still greater; since here the chance of the determination of to-day being contradicted by the discovery of the morrow was still more likely to occur. In this embarrassment I feared to act with decision.

" 3. The name *Trigonitites* is a miserable one. It was so offensive to me soon after having adopted it, as almost to induce me to cancel the sheet, in order to enable me to employ a more appropriate term; one perhaps, in which I might have alluded to the extraordinary degree of thickness possessed by these shells.

" 4. The passage which you quote as referring to a general classification, does certainly make such reference. As the fossil shells found in the environs of Paris were by no means all the genera of fossil shells which I was bound to notice, I took the names and characters of such others as I had reason to speak of from *Lamarck's Systeme des Animaux sans Vertebres*; and as a complete classification must be useful to such collectors as might find a shell for the first time in a fossil state, by enabling them to determine in what genus to place it, I felt no impropriety in introducing those few genera of which no fossil shell had yet been found, giving at the same time the useful but negative information of these not having been found fossil.

" 5. With respect to the Bradford fossils, it is very probable as you and that excellent judge of fossils the Rev. Mr. Townsend think, that the part which I have considered as the tube is an incrustation round the byssus; but in that case would not the shells be found lying down, instead of sticking up on their smaller end, which being attached, its opening is not seen. I however suppose my opinion might be changed if I were to see the specimen to which you allude. The rotula does not belong to any of the species except *Pistula personata*.

" 6. The figure of spathose matter found in the shells and delineated by Walcot, I had attended to; but he not speaking of any spiral tube, I was not aware of its being the fossil which I have described with such culpable negligence. I should be much gratified by learning your opinion as to the office of this peculiar spiral organ; as to my conjectures on the original structure of the belemnite, and as to the correspondence of the present structure of the belemnite, with that of the echinital spine. Plate IV. fig. 19.

" 7. The unfortunate reversing in the 5th plate is noticed in the description of the plates.

" 8. Your observations on the vertebrae of bony fishes are new and interesting. I am highly obliged by your stating the extent of the debt which I owe to Cuvier; since nothing would have made me more than to have attributed to me, any observation that belonged to that most admirable man; and from

1812.

Parkinson on Extraneous Fossils.

the same motives of respect, I regret much any error which I may have committed while abridging the account of your wonderful labours.

The concluding, the most vulnerable part of the volume is fully fraught with typographical errors, for after some of the letters having fallen but they were replaced by guess, and subjected to no revision, hence *broch* for *broch*, &c. &c. I might indeed plead other excuses for negligence, for I have found out that except a toll-gatherer or a turnpike-gate, an apothecary is the last man that should think of sitting down to write: but I leave myself with satisfaction, in the hands of one who to the reprehensions he employs, is evidently only guided by a love of science and the duty of acting with justice.

I much wish to obtain a sight of Dr. Menish's extraordinary camerated shell, if the present possessor would oblige me with a figure and description of it.

"I am, Sir, with respect, yours,

Hoxton Square,
April 2, 1812.

"JAMES PARKINSON."

We still differ from Mr. Parkinson respecting the epithet *secondary* as applied to fossils, this application of the term being in our opinion much more objectionable than that which he thinks it sanctioned. As applied to minerals, it does not merely "designate rocks not possessing their primary modes of existence," but such as are of subsequent formation, and comprehends limestone and chalk as well as traps, breccias, &c. formed from the disintegration of primary rocks. It is never applied to fossils in this sense, their existence in a mineralized state not being anterior to the formation of the strata in which they are found, and it cannot be employed to distinguish such as are found in secondary rocks, since primary ones do not contain any. It therefore seems to imply merely inferiority of value, and is consequently ambiguous.

As to the office of the spiral organ in fig. 11 and 12 of Plate XVI and the representations of what we suppose to be a similar structure in Mr. Walcot's fig. 83, we are not ashamed to confess our ignorance.

Mr. Parkinson's conjectures on the original structure of the belemnite are we think highly ingenious and by no means improbable; and there is certainly as he observes, a striking agreement between the present structure of that

fossil and some echinital spines; which has likewise been remarked by M. Bérard in the 17th vol. of the *Annales du Muséum de Natural History at Paris*. Their observations, however appear to have been wholly independent of each other.

As to the bivalve which Mr. Parkinson regards as a *fistulana* and we as a *mytilus*, there is no reason why the shells should have been found lying down in the latter case. The attachment or "sticking up," as he expresses it, is certainly in favour of our opinion. We might rather expect to find them lying down, if they were inclosed within a tube; but we are willing to grant that the tube in *fistulana*, as well as the byssus in *mytilus*, may be a means of attachment, and therefore in both cases the shells might be found "sticking up on their smaller end." Mr. P. would certainly change his opinion were he to see the specimens to which we allude.

That part of Mr. Parkinson's work which we are now more particularly to consider, contains his theory, in the construction of which he seems to have been as judicious as he was hasty in preparing the materials. We have already objected to the composition of his cement, and the unhewn state of some of the principal columns; but now we have cause to lament that he has chosen the Goodwin sands for his foundation.

"From the integrity of numerous delicate fossil shells, and from the congregation of numerous similar animals in a fossil state," he says, "it has been evinced that these animals must have lived on the very spots in which they are now found imbedded. It has been also shewn, that these fossil remains are found in those parts of the world in which no similar beings now exist, and in climates in which it is presumed that they could not live; that the remains of numerous unknown plants are found in the neighbourhood of coal, at considerable depths; and that the remains of marine animals are found in very lofty mountains, as well as far beneath the surface of the earth."

He then observes that to obtain any useful knowledge on these subjects, it is necessary that the examination of fossil bodies should be connected with that of the strata in which they are found; and presents a list of the upper strata which have been discovered in this island according to the actual observations of Mr. Smith, as given by Mr. Farey in his *General View of the Agriculture and Minerals of Derbyshire*. This is followed by an enumeration of the principal fossils of each stratum, in which we too clearly perceive the influence

of system upon the mind of the author. *Extinct* and other *external* remains so much dwelt on in the second volume of his work, abound in the limestones of Derbyshire, which are amongst the inferior strata of the above mentioned list. Their antiquity, (he says,) is manifested by their original deep situation, and by the peculiar fossils which they contain.

But the *pear encrinite* is found in a bed of clay which covers the Bath freestone at Bradford; and cannot by any means be regarded as marking the antiquity of the stratum. How then does Mr. Parkinson overcome this difficulty? He admits that he has no authority to speak decidedly respecting the stratification of Bradford, but "has little doubt that it would be found to be a portion of a lifted stratum, whose original situation was beneath the blue lias." With what wonderful ease do system-builders *lift* out of their way the most weighty objections. We can however assure him, from personal observation, that there is no appearance whatever in the strata of Bradford, to authorise his conclusion.

Again, the *pentacrinitæ* he says, seem to belong peculiarly to the lias; and "the confinement of this genus of animals to so low a stratum," appears to him very extraordinary, since we know that animals of this genus exist in the present ocean. Now repeated observations have proved to us that they are not confined to the lias. The *pentacrinitæ* are found in various places within ten miles of Bath, in the same stratum of clay that contains the *pear encrinite*, if not in the same spot. Besides, we cannot entirely agree with him concerning the necessity of ascertaining the fossils belonging to each particular stratum, as leading to useful results. A few fossils indeed seem to be limited to particular strata, but by far the greater part are common to many. How widely diffused are the belemnites and ammonites, and some species referred to the Linnæan genus *Anomia*.

From the view which Mr. Parkinson takes of the strata, and their contents, he is led to conclude that "the formation of the exterior part of this globe and the creation of its several inhabitants, must have been the work of a great length of time and must have been effected at several distant periods." For this conclusion there is some foundation; but we cannot agree with him when he attempts to reconcile this great length of time, and these several distant periods, with the Mosaic account of the creation, by assuming that the word *day* in that account is not descriptive of the time in which this planet now performs its diurnal revolution, but that it figuratively

designates certain indefinite periods, in which particular parts of the great work of creation were accomplished. Such modifications of the truths contained in sacred history ought never to be attempted; nor should the hypotheses of the philosopher be blended with sacred opinions; for this practice, which Lord Bacon terms the Apotheosis of Error, can only tend to limit the liberty of discussion.

We are surprised that Mr. Parkinson should not likewise have endeavoured to uphold the account of a general deluge, as given by Moses; but with regard to this part of sacred history he seems rather sceptical.

"The creation of man, we are informed, was the work of the last period (Genesis i. 26.) and in agreement with his having been created after all the other inhabitants of the earth is the fact, that not a single decided fossil relic of man has been discovered."

"This last circumstance will be considered by many as contradictory of the account of the deluge, by which the earth, with man, was said to have been destroyed; since in the remains of the deluged world, man might be expected to be found in subterraneous situations. The fact, however is, that although no remains of man are found, the surface of the earth which is inhabited by man, displays, even at the present day, manifest and decided marks of the mechanical agency of violent currents of water. Nor is there a single stratum of all those which have been mentioned, which does not exhibit undeniable proofs of its having been broken, and even dislocated, by some tremendous power, which has acted with considerable violence on this planet, since the deposition of the strata of even the latest formation."

We by no means think that the hypothesis would have been rendered more plausible, by having the effects of a general deluge interwoven with it; but it would have been more consistent in the author if he had treated this part of the account with greater respect. Had he, however, attributed all the phenomena to the operation of a general deluge, taking the periods of creation in their literal acceptance, as many have done, we should have differed from him quite as much as we do at present.

The state in which we find the different fossil corals, in this island, and in various parts of the continent, proves that the presence of the sea in those places could not have been the sudden and transient effect of any violent irruption, or any catastrophe; but that it has covered them for a very long period; thus affording time for the multiplication of the

But the difficulty is not only in the removal of the waters, but in the removal of their antediluvian generations during a long series of years. In this manner enormous masses of madrepores and other kinds of coral, and perhaps the principal part of all calcareous matter, have been formed.

Mr. Parkinson's hypothesis is likewise defective in, as much as the explanation is attempted of the disappearance of the waters of the ocean, which must at one period have covered every part of the globe; nor of the change of climate which is supposed to have taken place in various parts, in order to account for the remains of animals in countries "in which it is presumed they could not live."

So much difficulty has occurred in the removal of the waters in this case, that some geologists think they have only covered the different parts of the earth in succession, and that they have retired from the places which they once occupied in obedience to a cause slow but constant in its operation. By the continued action of this cause they conceive that those parts, which are now uncovered, may in the course of time become the bed of the ocean, as they have already been; and on the other hand, that the actual bed of the ocean shall in its turn be rendered dry land. Besides, there are facts which cannot be explained, unless it be admitted that the sea has only covered and retired from certain parts of the earth's surface, but that this has happened repeatedly in some places.

This is not all. The knowledge of fossils, they say, by the various important facts which it presents, becomes the index either of a change of climate continually happening, although infinitely slow, in respect to each point of the surface of the globe, or of a similar change in respect to the form, temperature, and habits of the animals and plants which dwell upon it. These circumstances, however, are not considered in Mr. Parkinson's hypothesis.

Among the fossil remains of organized beings found in Europe, there are evident proofs, we are told, that many of these beings, as they are now constituted, could not exist in a climate of the same temperature as that in which their remains are at present intombed. For example.

1. Numerous impressions of *exotic figs* are found in the schist and coal strata.

2. Palms which are nowhere indigenous in Europe, are found in France, in the department de l'Oise and in other places.

3. Masses of amber, the produce of resins different from

those afforded by the coniferous trees of Europe, have been found near Soissons and in other parts of France, and a similar vegetable product has been lately found at Highgate.

4. Masses of elastic gum, either from caoutchouc, or other vegetables indigenous to a warm climate, have been found in great quantity near Castleton, in Derbyshire.

5. Corals, the recent analogues of which are found only between the tropics, are found mineralized near the poles.

6. Shells, the recent analogues of which are confined to the seas of hot climates, compose part of the fossils which have been found in this country and in France. *Nautilus pompilius*, a living inhabitant of the Indian Ocean, and the sea which bathes the Moluccas, is found at Courtaghon and Grignon in France, and likewise in various parts of England.

Among the fossils of the environs of Bourdeaux *Murex spirillus* Linn. which at present inhabits the coast of Tranquebar, exists in great abundance.

Murex tripterus, a very common fossil at Grignon near Paris, is found in a recent state in the Indian Ocean.

7. Lastly. Fossil bones belonging to animals, as the elephant, hippopotamus, rhinoceros, tapir, crocodile, &c. natives of the torrid zone, are deposited in different parts of Europe.

These facts have been explained by means of a continual displacement of the ocean, not proceeding from any violent revolution or catastrophe, but from extremely slow mutations, occasioning an uninterrupted motion of its waters from the east towards the west. This gradual displacement of the ocean is supposed to be as ancient as the cause which gave rise to it, and, from its continual operation, they are supposed to have performed many times the tour of the globe, and to have covered each time all its external points successively. In consequence of this displacement of the waters, a change takes place in the centre of the earth's gravity, in its axis and climates. Lastly, it is supposed, that, if the earth's axis and the climates change in proportion to the displacement of the waters, the equatorial elevations by means of these changes successively and gradually approach the poles. All these changes are said to be ascribable to certain known motions of the earth as a planet.

It is, however, admitted that the terrestrial globe has from some external cause experienced a revolution or catastrophe violent enough to have occasioned, in different parts, the

sudden dislocation of bodies not having a firm adhesion, and to have formed in various places remarkable congestions which the usual order of things had not produced. But if the facts here stated attest such a revolution, the extraordinary cause of it is totally different from that which gives rise to the slow displacement of the waters of the ocean, &c. but by no means contradictory of its existence. They are wholly independent of each other, and the numerous monuments, which the advocates of the latter perceive everywhere as consequences of its action, could not have arisen from the sudden catastrophe of which we are now speaking.

All the hypotheses however, of a gradual displacement of the waters of the ocean, and change of climates, or of a slow variation, either in the inclination or position of the axis of the globe, are overturned by one plain fact. The bones and tusks of the elephant, so perfectly preserved in the plains of Siberia, owe their preservation to the cold which congeals them, or which arrests the action of the elements upon them. If this cold came on suddenly or by degrees only, the bones and especially the soft parts with which they are sometimes still enveloped; would have had time to undergo decomposition, as is the case with those found in hot and temperate climates.*

This fact likewise militates against the hypothesis which ascribes the presence of these remains in polar regions to an irruption of the sea, by which they may have been transported from those regions which the elephant of India and the known species of rhinoceros at present inhabit. So much violence as they must have undergone in the transport, could not fail to have detached their soft parts, and even given the bones a water-worn appearance: these however, do not exhibit any marks of having been foiled. Their angles and apophyses are preserved, and frequently the epiphyses of such as had not attained their full growth. Many circumstances shew that they have been overwhelmed by an inundation, which did not rise above the high mountain chains; for the strata which it deposited, and which contain the bones, are found in plains of moderate elevation. How then, Cuvier asks, could the bodies of elephants have been transported to the north over

* Pallas made the astonishing discovery of a complete rhinoceros, still covered by skin, and buried in the sand on the borders of the river Wilgh: and a few years ago an entire elephant was discovered in a similar state, and described under the improper name of mammoth. See Philosophical Magazine.

the mountains of Thibet and the chains of Altai and the Ourals?

Every thing relating to fossil bones renders it extremely probable that the animals to which they belonged, lived in the countries where we now find their remains. There is likewise reason to think that they could not have disappeared but by means of a revolution which occasioned the destruction of every individual at that time existing, or of a change of climate which put a stop to their propagation. But whatever the cause has been, it was sudden.

If however, an irruption of the sea, proceeding from the south towards the north-west could be admitted as sufficient to explain the above phenomenon, how are we to account for the remains of animals in the plaster quarries of Paris, whose congeners, the Tapir and Opossum, are inhabitants of South America.

Were the existing elephants of India, as has been imagined by some geologists, the descendants of an ancient race which took refuge in the climate where they are now met with, at the period of the catastrophe that destroyed them in others, it would then be impossible to explain why the species has been destroyed in America, where sufficient remains of these animals are found to prove that they once inhabited that country. The vast empire of Mexico affords elevated spots upon which they might have escaped from such an inundation as that by which we suppose them to have been overwhelmed, and the climate is even warmer than is necessary for their temperament. It might be shewn likewise, that the mountains of the Isthmus of Panama could not have afforded any obstacle to their passage into South America.

The northern parts of the globe formerly supported species belonging to the genera of elephant, hippopotamus, rhinoceros, tapir and mastodon; genera of which the four first have at present species in the torrid zone, while of the last no species are at present known to exist.

Nevertheless, nothing authorises us to suppose that the species of the torrid zone have descended from these ancient animals of the north, which were either gradually or suddenly transported towards the equator. They are not the same, and we shall find, as Cuvier remarks, from examination of ancient mummies, that no established fact authorises us to believe in changes as great as those which must be imagined in such a transformation, especially in wild animals.

Neither is there any proof that the temperature of the

climates of the north has changed since that epoch. The fossil species differ not less from living species, than certain animals of the north now existing, differ from their congeners of the south : the arctic fox, or dog of Siberia, for example, (*Canis lagopus*) from the Jackal of India, (*Canis aureus*). They may therefore have belonged to climates much more cold.

And in respect to other fossils found in northern climates, whose recent analogues are supposed to exist between the tropics, and there only, as the habitations of some *polypes* and *mollusca*, may these not be differences hitherto overlooked by naturalists, in consequence of which an identity has been established upon insufficient grounds ?

Vegetable products, especially the elastic gum, are obtained from plants very dissimilar ; and may not the tree which furnished the fossil caoutchouc of Derbyshire, and the palms which appear to have been once indigenous to France, as well as the prototypes of ferns referred to exotic species, have perished with the mastodon, &c. ? Was there not a time when animals, whose congeners are now confined to the torrid zone, lived in our climate, shaded by forests of palms ?

We cannot take leave of Mr. Parkinson, without acknowledging our obligations to him for the amusement and instruction, which we have derived from his third volume. It constitutes, in this country at least, a new era in the study of the objects of which it treats. Many works have been written upon fossils, but in none of them, except that of Brander on the Fossils of Hampshire, have any of these productions been properly characterised and described. Mr. Martin's work on the petrifications of Derbyshire did not appear till after the commencement of Mr. Parkinson's labours. We earnestly hope that he will continue to prosecute his interesting researches : let him dig, describe, engrave, nay even translate foreign memoirs upon his favourite science, but let him beware of theory, "for that way madness lies."

ART. IV. *A Treatise on the Bath Waters.* Part I: Second Edition. By George Smith Gibbes, M. D. F. R. S. One of the Physicians to the Bath General Hospital, Fellow of the Royal College of Physicians, and late Fellow of Magdalen College, Oxford. Bath, Meyler and Son. 1812. pp. 116. 8vo.

POST tenebras lux. Thus did we hail the publication of the first edition of Dr. Gibbes's treatise, twelve years ago, when told, that the author was a graduate of Oxford, a Fellow of the Royal Society, and an established physician at Bath. Nor were our hopes lessened by the recollection of a vain attempt to obtain distinction, through the means of a pamphlet on the *adipocirc* of the French chemists; to which substance the author in the fulness of vanity, or his friends in the fulness of zeal, gave the name of *Gibbesium*. The severe disappointment however, which we experienced upon perusal of this treatise, can only be compared to the feelings of the shipwrecked, when they have mistaken the meteors of the night for the dawns of the morn; for where we relied upon meeting with matters of fact, we were immersed in matters of curiosity.

"As a matter of curiosity, I find that the quantity of heat which is evolved by them in the course of one year, above the medium heat of other springs, would render above seven hundred million of cubic inches of iron red hot."*

Recent experiments upon the waters of other warm springs, particularly upon those of the Geysers in Iceland by Dr. Black, prompted him to search for silex as a constituent part of the Bath waters, and it was accordingly detected in the residuum obtained by evaporation. The same substance has been observed by Mr. Phillips and Dr. Wilkinson in their analyses, but in a much smaller proportion. The latter thinks, and in our opinion justly, that it is not held in solution as Dr. Gibbes supposes, but that it is only mechanically diffused through the water; as no ingredient appears by which its solution could be supposed to have been effected; and as the water passes through a bed of alluvial matter, abounding with fine siliceous sand, immediately beneath the surface of the earth.

Knowing that the author has always professed to be much

* First edit. p. 17.

engaged in investigating the chemical nature, as well as the medical properties, of the Bath waters, we cannot but express our astonishment at not finding one new experiment in the present edition of his treatise. Instead of having advanced in the knowledge of his favourite catholicon during the last twelve years, so as to present his readers with an improved analysis, he is now satisfied with copying those of Mr. Phillips and Dr. Wilkinson: thus tacitly admitting that he was mistaken with regard to the state in which the iron exists in these waters, and that his estimate of the silica was far too great. These are not the only points conceded. The numerous compliments paid to Dr. Falconer, a well known experimentalist on Bath waters, can only be regarded as oblivious sounds poured into the ear of an antagonist whom he dreads.

In the first edition we were told that the water contained iron "in a state of extreme division, the quantities in consequence of its apparent volatility not to be estimated." But from the second we learn that "iron exists in three states in the Bath waters. 1st. In a metallic state, evinced by particles attracted from the sand which the water brings up into the reservoir. 2nd. In the state of pyrites, which is found in the bath. 3rd. In the state of ochre or carbonate of iron."

No experiments are related to authorise this deduction, but the attraction of particles from the sand and residuum by the magnet. That iron exists in the water, in the state of a carbonate we have no doubt, but certainly Dr. Gibbes, who has now been employed fifteen years in his experimental inquiry, should have given other proofs of its presence than what is afforded by the appearance of "the glasses and the sides and bottoms of the baths." The pyrites of which he speaks exist in great quantity amongst the sand. It is a weak sulphuret, and therefore attracted by the magnet; for which discovery we are indebted to Dr. Wilkinson, who has found the same in other alluvial sand deposited in different parts of the valley near Bath; consequently Dr. Gibbes's hypothesis respecting a pyritic formation from sulphur and metallic iron, neither of which have any separate existence in the water, and his "glimpse of Nature's laboratory," are

"Phantoms bodiless and vain,

"Empty visions of the brain."

"Pyrites, where iron in a metallic state is united to sulphur, is found formed in the bath, and in such situations as prove that it must have been deposited by the waters themselves. It appears

that these waters contain the principles from which the pyrites is composed, and we seem here to obtain a glimpse of Nature's laboratory, and to detect an operation hitherto unexplained.*

We confess ourselves to be such short-sighted mortals as to despair of ever seeing this curious operation, nor does this flambeau of Gibbesium lend any assistance to our optics. If any iron exists in the residuum it is the sulphuret already mentioned, which with the siliceous sand had been diffused through the water; and this circumstance serves to strengthen the very probable conjecture of Dr. Wilkinson respecting the latter substance.

We have been greatly amused with the following novel and ingenious mode of philosophizing, by which powerful effects are attributed to trifling causes. The iron as it exists in the waters can scarcely be detected by the most delicate test, but this circumstance is regarded by Dr. Gibbes as the strongest proof of their efficacy.

"Indeed upon the divisibility of it depends its greater efficacy, for if by the common test of chemical experiments, we can certainly discover a single grain of vitriolated iron diffused through every drop of several gallons of water; there is no good reason to reject the supposition that the same, or any other medicine, may be equally divided and diffused through the whole animal machine."

Thus,

"My wound is great because it is so small.

"Then 'twould be greater if 'twere none at all!"

We shall now notice a few of the medical observations, for these occupy the greater part of the work. Of dyspepsia the Dr. says that "many of the distressing symptoms arise from the increased determination of blood to the head." The reciprocal influence between the brain and the stomach has not escaped the notice of numerous authors both medical and surgical. It is well known that the stomach is much disordered in accidental injuries of the head, and long continued disease in the stomach sometimes produces disorders in the brain; but to impute the origin of dyspepsia principally to increased action in the circulating system of the head is an opinion to which few will subscribe. Indeed the author himself is not very tenacious of his hypothesis, for in the next sentence he states that the undue determination of blood to the head is not

the cause of dyspepsia, but the effect of complaint in the stomach. But he shall speak for himself.

“ We find, during health, that there is a regular balance preserved in the circulating system, and that in almost every derangement of the body, this balance is not preserved, and consequently parts remote from the operating cause have an undue determination of blood. Thus when the stomach is affected, the arteries supplying the head have a greater activity, and a fulness of vessels take (takes) place; the cuticular vessels over the body are constricted, greater internal reactions are produced, and vomiting and diarrhoea occur to expel the offending matter from the stomach and bowels. It appears that these sympathetic actions are destined for the removal of the cause producing disease, and that the brain dispenses its powers through the nerves for this salutary purpose. But in speaking of the fulness of the vessels which takes place in the head, when the stomach is deranged, it is necessary to observe that the venous vessels of the brain are more liable to accumulation, stagnation and regurgitation than any others in the system.”

The Dr. here assumes what can by no means be granted. It is extremely doubtful whether regurgitation ever takes place in the venous system, of the brain. The circulation of the brain appears to be contrived in such a manner as to secure this delicate structure from the effects of excessive vascular action. Although the brain receives a greater quantity of blood than any other viscus of the same size, the whole of this blood does not pass in a direct course and by one artery; but it is conveyed by several channels, and the force of the circulation is probably likewise weakened by the circuitous route which the blood takes in these tortuous vessels. That the jugular veins are larger in proportion to their corresponding arteries, than in other parts of the system, and that the veins of the head are frequently in a turgid state we readily admit, but the descending position of the jugulars, and the capaciousness of these vessels, and the sinuses, affords sufficient outlet, and confutes the assertion that the “ venous vessels of the brain are more liable to accumulation, stagnation and regurgitation than any others in the system.” On what authority he represents vomiting and diarrhoea as usual symptoms of dyspepsia we know not. Our experience teaches us that this complaint is more frequently associated with constipated than loose bowels. The jargon about the nerves through which the brain dispenses its powers for the removal of the cause producing disease is perfectly unintelligible.

Mr. Fatter says that the occurrences of life are too dull to afford entertainment in the narration, unless they are

embellished, and our author seems to be of the same opinion, if we may judge from the following notable description of a gouty paroxysm.

"In an instant, and frequently during sleep, the joint of the great toe is afflicted with excruciating pain, heat and throbbing; the whole body becomes feverish, and all the secretions are altered. The urine becomes thick, high coloured, and deposits a lustritious sediment. The bowels are inactive, and the whole system partakes in the commotion. Indifferent to its seat, the gout shifts from place to place, and in a few hours, a part though grievously affected by it, will resume its healthy character. *One foot will succeed another*, and hardly a joint is free from the occasional visit of this painful tormentor. But whilst it thus exerts its rage, on these remote parts of the system, the vital, or those organs more essentially connected with life, assume a serene and tranquil character. The faculties of the mind resume their wonted calmness, and the stomach and heart are relieved of their oppressive burdens."

The intelligent reader will, no doubt, admire the unique embellishments of this description, but we cannot refrain from directing his attention to a new kind of commotion which the author has discovered, viz. the commotion of inactivity.

There is another circumstance equally extraordinary. The patient during the paroxysm is compelled to walk, *non volens*, and in defiance of the excruciating pain in the great toe; for what else are we to understand by "*one foot will succeed another*."

The extracts which have now been made from the work before us, fully prove the author's incapacity either for chemical, physiological, or pathological researches. As late fellow of Magdalen College, Oxford, and present fellow of the College of Physicians, we did at least expect that he would have written with perspicuity. But the description of gout, and the few sentences which follow, mark his deficiency in this respect likewise. "The hills are generally rocky and steep from south-west by west to north and by north." "The hills in the immediate neighbourhood of Bath are generally rocky and steep from south-west and by west to north." "On the surface of the earth the substances are dissolved and brought down into the vallies, and by the agency of water, are elaborated into the vessels of organized beings." "In the isle of Anglesey, the labour of the metallurgist is rewarded by extracting the copper, with which

the water is impregnated,"* Thus labour, like virtue, is its own reward, for it is not the copper, but the labour of extracting it, that rewards the metallurgist. "Thus charged with calcareous earth, (i. e. water) by various filtrations it forms the roughest limestone and the finest dense and crystalline spar."†

It would be tedious to enumerate any more of the various and manifold errors of this treatise. Dr. Gibbes may be a theme of admiration in the card assembly and "blue stocking" societies of Bath, and we are not certain that this work, by procuring for him a continuance of such distinction, will not answer the object of its publication; but we are very certain that neither the Royal Society, the Royal College of Physicians, nor the University of Oxford, can derive any honour from his fellowship.

ART. V. *Observations on the Surgical Anatomy of the Head and Neck. Illustrated by Engravings.* By Allan Burns, Member of the Royal College of Surgeons, London, and Lecturer on Anatomy and Surgery, Glasgow. Bryce, Edinburgh. 8vo. pp. 414. 1811.

THE study of anatomy embraces three important objects: a knowledge of the elementary structures which constitute the different organs of the human body; of the texture, form, and composition of those organs; and the relative situation and connection which the various parts possess with regard to each other. The two former objects are principally physiological, and it is the last which constitutes what is called surgical or relative anatomy. This is a branch of the science which has been, at least in this country, too little attended to, and a knowledge of the origin and insertion of muscles, and the ramifications of vessels and nerves has been substituted for a familiar acquaintance with the size, relative situation and connection of those parts which are more immediately the object of surgical operations. An important arterial twig is traced with exquisite minuteness, and the proficiency of the dissector is estimated by the minuteness of his investigations and the cleanliness of his incisions. The situation which a large artery holds with regard to its

vein or nerve, its distance from the bony prominences, its situation with regard to the muscles and the nature of the cellular fascia in which it is imbedded, are totally disregarded, and its minute expansion upon the joints and bones are the vain objects of admiration. It is owing to this perversion of labour, that in operations we so often witness ill directed incisions, doubts as to which side of the muscles the vessel will be found, nerves raised from their situations, and veins included in ligatures.

This erroneous system of anatomical education is the more to be deprecated, because the extent of the science almost precludes a thorough knowledge of it, even to the most indefatigable and industrious student. If the patient, the industrious, and the comprehensive mind of Haller required more than twenty years to obtain what he considered a tolerable acquaintance with the subject as far as known at that day, how can we now expect its accomplishment in that short period which is devoted to it by the horde of students hibernating in this metropolis. In truth, the erroneous habit of tracing the blood vessels, the nerves, or the muscles, on different subjects, confers no practical knowledge to the surgeon, and this object might be almost as well obtained from anatomical tables. A knowledge of the principal regions that are the seats of surgical operations, constitutes but a very small theme of the science, although to the surgeon it is the most important, and is even indispensable. Now if the generality of students have neither the means, the perseverance, nor the opportunity of studying this science in all its branches, surely it is desirable that their attention should be directed to that part which is obtainable, and is at the same time the most important. To this end we venture to recommend the patient dissection of those regions which are the seats of the more important surgical operations, and the substitution of that relative knowledge of parts which conferred such peculiar merit on the unrivalled demonstrations of Camper.

Although this knowledge is in truth only to be acquired in the dissecting room, still we have derived so much assistance from the clear and elegant description of Camper that we do not despair of seeing the absence of a demonstrator in some degree supplied by simple descriptions and unconfused plates. The head and neck constitute one of the most important regions to the surgeon, not only because these are the seats of an infinite variety of diseases that require surgical operations, but also because those diseases are so irregular and complicated that their treatment cannot be subjected to

defined rules, but must be left to the skill and anatomical knowledge of the operator. The active and the laborious habits of Mr. Burns, are such as to afford him a familiar and extensive acquaintance with the subject, but unfortunately he has been betrayed into a desultory style of composition, and a rambling habit of writing which totally defeats the object of his work. In truth, the whole book is a collection of scraps of essays on various surgical subjects, interspersed with a few practical observations and many romantic theories deduced from meagre evidence, and connected by a very scanty tissue of anatomy. This is more properly a "*dégoûtement*" of his common place book, than an anatomical description of the head and neck. We have a dissertation on tumors, on aneurisms, and bleeding vessels, on cancer, and fungus hæmatodes, on emphysema, and various other subjects, which are introduced with as much propriety as would be a treatise on inflammation or any other disorder to which this part of the body is liable in common with all the rest; and from which, probably, we are only spared because Mr. Burns did not happen to possess any new ideas about them. Three fifths of the book are made up of these extraneous disquisitions, the value of which by no means exculpates their misplacement, and although with some labour it is possible to pick out a few threads of anatomy, they are so extremely diffused and attenuated that *quod petis est nusquam* is the conclusion which we are compelled to adopt.

Moreover Mr. Burns has a wonderful predilection for new ideas. This propensity is betrayed in the very commencement of his work, for we are told that the chief use of the platysma myoides is to support the neck and throat, and that the cellular membrane connecting the different parts that form the neck, which by the way is denominated a fascia, and described with an air of original importance, not only performs the office of fasciæ in general, but materially contributes to the facility of respiration.

"At the lower part of the throat there is some peculiarity in the mechanism of the fascia. When the integuments are dissected off, the fascia, which has been described, is brought into view, covering the sterno-mastoid muscles, and extended between their tendons. By dividing this fascia, a mass of fat equally thick as the upper bone of the sternum, and often having imbedded in its substance a small conglobate gland, is brought into view. When these are cleaned away, another layer of firm, tense, and fibrous fascia, is exposed, covering the outer surface of the sterno-hyoid

and thyroid muscles. By pulling the superficial fascia, the deep-seated one will be seen to be derived from it.

"From what takes place on the removal of the superficial and deep fasciæ, accompanied with destruction of the sterno-hyoid and thyroid muscles, we learn the value of them. So long as these remain entire, breathing is performed with ease, provided there be no disease in the lungs, or neighbouring parts; but whenever these fasciæ and muscles are removed, (an occurrence not likely to happen very often) then, on every attempt to increase the size of the chest, the atmospheric air pushes back the unresisting skin on the trachea, compressing that tube to such a degree, as to occasion very serious difficulty in breathing."

Mr. Burns was led to form this opinion from the case of a young man who had been subject to pulmonary complaint from his infancy, and about the age of twenty had an abscess which burst above the sternum, and from which was taken a portion of "lymphatic substance." There was great destruction of parts about the top of the sternum, and when the sore healed, "the trachea, the arteria innominata and the thyroid branch of the inferior thyroid artery, were found to be covered merely by a very thin pellicle of polished skin,—a defence not sufficient to prevent the pressure of the air on the trachea." "The air passes into its canal," Mr. Burns remarks, "in part by the rima glottidis, but it likewise endeavours to force its way directly above the sternum. The fasciæ and muscles being destroyed, the mechanical pressure of the atmosphere compresses, to a certain degree, the canal of the windpipe."*

And "there is at each time that the patient inspires, a deep hollow formed at the upper part of the sternum, and a wheezing sound produced by the air passing along the narrowed trachea."

We can be at no loss to account for such symptoms in a person, who it seems had not been free from pulmonic disease for several years, and Mr. Burns will find that in every case where there is much difficulty of breathing, the same kind of hollow is formed by the strong action of the muscles inserted into the sternum and clavicle, although the fasciæ are perfect. In the case which he has mentioned, the formation of a hollow by disease, would of course, render the appearance more remarkable.

Attention should be paid, Mr. Burns remarks, to the influence which this fascia has in binding down tumors, and causing them to form adhesions to parts of great consequence in the neck; he therefore with great propriety recommends their early extirpation, if such operation be in other respects proper. He says they may be distinguished from tumors external to the trachea, by their being flattened on the surface, and less movable.

It is a short and but very imperfect account of the important points connected with the subclavian artery, Mr. Burns alludes to the proposal of tying the arteria innominata, in cases of subclavian aneurism situated too near the scalenus to admit of the ligature of that vessel. We do not doubt the possibility of placing a ligature around the arteria innominata where the natural condition of the parts has not been altered by disease. But we think the ultimate success of such an operation very improbable; not, however, that we suspect the powers of collateral circulation, or in the least degree coincide with Mr. Burns in his apprehensions of any ill effects being produced upon the brain by suddenly cutting off the supply of blood from two of the vessels, since both the carotids have often been tied in animals without the least impediment to the cerebral functions; but we think that the shortness of the trunk of the arteria innominata, and its position would prevent the formation of a plug, and that the force of the circulation so near to the heart would lacerate the recent adhesion upon the separation of the ligature. Moreover we cannot conceive the case that could require this operation, for if the aneurism appear above the clavicle, how is it to be ascertained that it does not arise from or extend to the arteria innominata, or the arch of the aorta? what space would there be for the incisions, and how great the danger of inflammation excited by these free incisions and lacerations at the root of the neck?

The difficulty of tying the carotid artery is considerably exaggerated in the account of it given by our author. In the upper part of the neck where it is not covered by the sterno-mastoid muscle, the difficulty is certainly not great; and in the lower part, where the surgeon is more likely to be called upon to operate, if this muscle obstruct him so much as to endanger the proper performance of it, why not detach the sternal portion? The fear which Mr. Burns entertains for the safety of the thoracic duct is surely unfounded. The embarrassment which proceeds from the alternate dilatation and emptying of the jugular vein during respiration, may be obviated by pressure on it above the place where the

artery is to be tied. If then the artery be fairly exposed, for fairly exposed it should at all events be before the surgeon proceeds in his operation, nothing is more certain than that he may still open its sheath and tie it, without any risk of including or injuring any other parts. It has happened to Mr. Burns to see some very uncommon instances of the division of these arteries, such as it is impossible to calculate upon, but we are very ready to agree that every surgeon should be acquainted with the fact that they do sometimes occur, and be prepared supposing it should unluckily occur to himself to meet with them.

“ Generally, in both the young and old subjects, the bifurcation of the common carotid artery is placed opposite to the upper margin of the thyroid cartilage. But in fact, the place of division of the common carotid artery, is liable to great variety, both in point of situation and appearance. Sometimes it bifurcates low in the neck, at other times it does not divide at all, but merely sends off branches on every side; and in not a few instances, a series of large branches are found, in place of an external carotid. In one of our subjects, the common carotid separated into its two trunks low in the neck. The division took place opposite to the upper edge of the sixth cervical vertebra, and about three inches below the angle of the jaw. The two vessels mounted along the side of the larynx parallel to each other, and enveloped in the same sheath with the internal jugular vein and nervus vagus.

“ In a preparation of the vessels of the head and neck which is in my possession, the external carotid is a short thick stump, resembling the axis arteriæ celiacæ, and like it from the top of this, the large branches take their origin. This mode of arrangement constitutes a very beautiful variety in the appearances of the vessels. As the parts on which they are to be distributed, lie above, and on every side, the branches in their course to these, form a very fine vascular fan.

“ In another preparation which was also in my possession, the common carotid, instead of dividing in the neck, sends off lateral branches, till it reaches considerably beyond the angle of the jaw. Opposite to the root of the styloid process, it divides into two branches, one forms the internal carotid, the other is the conjoined trunk of the temporal and internal maxillary arteries.”

The dissertation on aneurisms occupies nearly one hundred pages of this treatise, and contains a variety of remarks on the operation, and treatment of this disease in general. The use of compression is spoken of with a degree of confidence that we do not believe to be borne out by any experience, and we could very readily explain to Mr. Burns another principle upon which the cure has been in such cases effected, if such

a disquisition would not be almost as misplaced in our review as it is in his treatise. The remarks on this subject however, afford so fair a specimen of the style of the work that we extract it in justification of the opinion which we have given of the general style of the composition.

“ Previous to the introduction into use of the ligature, general compression was, along with trivial external applications to the tumor, entirely trusted to. Nor are cases wanting, in which the compression was successfully employed. At the present day, some recommend its indiscriminate use in every instance, while others are equally decided that it should be employed in no case. Those who adopt the practice, or who reject its employment, ought to be acquainted with the principles on which they proceed; but few who are thus decided act on any principle, except that of imitation. Experience proves that there are cases in which general compression may be most beneficially used; but it, at the same time, informs us, that there are others in which it would be most injurious. What are then the cases in which general compression is advisable, and what the reverse? One who is acquainted with the mode by which a spontaneous cure is effected, will be at no loss to answer this question. He will know that whenever the symptoms are such as to indicate a tendency to spontaneous cure, compression will assist in completing it. Thus, when the tumor, at the same time that it is large and firm, and not beating strongly, is neither painful nor discoloured, general compression, judiciously employed, will prove a most beneficial auxiliary in the cure. Nay, even where the aneurism is only in its incipient stage, general compression, although it will not be so certainly successful, is not without its advantage. Indeed, it never does harm, if not productive of much pain, which, along with an increase of numbness, ought to be considered as monitors to desist. It need hardly be observed, that where the swelling is inflamed, painful, and diffused, its use can never be permitted; it would, if employed in such circumstances, aggravate the disease it was meant to cure.

“ In using general compression, our intention is in no case to induce or increase inflammation, which would, almost to a certainty, terminate in gangrene. On the contrary, the object we hold in view is to produce coagulation of the blood in the sac, and thus to cut off the aneurismal cyst from any share in the circulation. If this be accomplished, the absorbents will soon perform their part of the process. They will slowly remove both the sac and its contents, leaving, in the end, in the place where the tumor had been, a small, generally oblong, hard knot, free of pulsation.”

On the use of the ligature we find some opinions which lead to doubtful conclusions. “ The ligature I suppose,” says Mr. Burns, “ does no more than by its irritation excite

such an increased action of the vessel as shall occasion the secretion of organized lymph. The same may be done by bruising it, or by loosely placing a thread around it." And further in speaking of the form of the ligature: "There are many circumstances which would lead us to believe that Dr. Jones has erred in the explanation which he has given of the fact, that an ill formed ligature prevents obliteration of the artery." If an uneven thread be used, the inflammation excited runs, perhaps, too high; or on the other hand, if the vessel be torpid, which frequently happens in aneurismal patients, a sufficient action is not brought on, but all this is totally independent of what Dr. Jones supposes, being totally uninfluenced by the internal coats being cut, or the reverse." To what does all this lead, but to the inference that it is immaterial, with what kind of ligature the artery be tied? Now that adhesion is capable of being effected without the wounded internal coats being brought into contact, has been proved by Dr. Jones himself, and that it is possible that the adhesion may take place if an artery be simply bruised, or its internal coats but partially divided, we cannot deny, but it is very unlikely to take place, and surely no one would exchange the safe and certain practice grounded on the knowledge which Dr. Jones has communicated to the public, for the great risk of failure incident to any mode of operating founded on the opinions of Mr. Burns.

Our author attempts to account for the obliteration of divided arteries up to the next collateral branch, after they have been tied, by supposing that the ligature is capable of exciting the adhesive process in its neighbourhood, and beyond the sphere of its action he supposes that the internal clot performs a similar office. He reasons in the following way:

"That naturally no absorption goes on from the inner coat of arteries. Nature has therefore increased her own task by forming a bloody clot. Unless it performs a part in the process its presence must be detrimental, since it must be removed before adhesion can take place. When it is found such a change must afterwards be induced in the nature of the internal coat, as shall adapt it for removing by absorption the extraneous substance. The accomplishment of this also renders the aptitude for adhesion greater."

Again,

"A coagulation, as we learn from Dr. Jones's experiments, is chiefly formed where the distance from the ligature to the first lateral branch is considerable. Where the distance is short, the ligature excites a sufficient degree of irritation to produce the

lymphatic effusion, but where it is considerable, that part in the vicinity of the thread is sufficiently excited; not so the more remote parts. From the natural effect of the stagnation of blood, coagulation is formed, which being an extraneous substance, excites the action of that part of the canal of the vessels, with which it is in contact, procures its own absorption, and at the same time causes an effusion of organized lymph. This is really the only benefit which can be derived from the clot, and its presence under these circumstances shews that all that is required to produce obliteration, is a certain degree of irritation applied to a healthy artery. If this be brought about the adhesion is complete."

Mr. Burns has but little charity for any theories except his own; of the plan which has been proposed for tying the artery, below an aneurismal sac, when it is impossible to pass a ligature round it, between it and the heart, he says "It is absurd in theory, and experience proves that it is ruinous in execution." Now the experience which has been had of it, is certainly not sufficient to warrant so round an assertion as the latter; more trials should be made, before such severe judgment should be passed upon it. It will be recollected that tying the carotid and external iliac arteries, would at this day have been as utterly condemned, had the surgeons who proposed and practised these operations, formed so precipitate a decision from a few failures. That it is absurd in theory we cannot admit, on the contrary, we think the reasoning on which it is founded extremely good—tying an artery will unquestionably in a healthy state produce obliteration to the next collateral branch—why is it not fair to suppose it very possible that the same may occur although an aneurism be situated in its course? This proceeds on the supposition that there is still a current of blood through the artery, for otherwise it would be altogether nugatory.

If the insertion of this dissertation on aneurism is to be tolerated, surely an enquiry into the nature and appearances of fungus hæmatodes cannot be considered misplaced. The differences between fungus hæmatodes, cancer, and medullary sarcoma, are elaborately discussed, although the only novelty that we met with was the history of a diseased breast, "one extremity of which presented the decided features of fungus hæmatodes, while the other end displayed the peculiar characteristic texture of carcinoma," thus affording a doubtful evidence of the co-existence of these two diseases. The identity of medullary sarcoma and fungus hæmatodes is denied, and the difference is inferred from an anatomical examination of the tumors. "In fungus hæmatodes," says Mr.

Burns, "the body of the tumor is intersected by numerous membranous bands, but in medullary sarcoma the mass is of an uniform pulpy consistence, and resembles in colours the cortical portion of the brain. In the former we can wash out the soft brain-looking matter, while the membranous bands are left remaining; if we treat a section of the latter tumor in a similar manner, we leave only the capsule in which it was contained, and a number of flocculi hanging from its inner surface." We by no means however, agree with Mr. Burns in considering the absence of these septa in glands secondarily affected, as a proof that they are never met with in medullary sarcoma: the structure of the particular organ in which the disease exists may give rise to a considerable difference in its organization, and we have seen this strikingly exemplified in a case where the testis and lumbar glands were affected with a disease possessing the genuine characters of medullary sarcoma, and where the liver and other organs at the same time suffered under a disease equally resembling fungus hæmatodes. We cannot avoid supposing that the differences of opinion which have existed on this subject may be reconciled by considering the variety of structure in the different organs in which the disease has occurred, and that this circumstance will account sufficiently for the varieties that take place in the appearance of the disease.

The relation of a case of bloody tumor on the face, gives rise to a disquisition on the structure and treatment of aneurism by anastomosis, in which disease Mr. Burns says "there is no loss of muscularity; no dilatation of the coats of the vessels from weakness; there is no partial growth from any individual artery; but on the contrary the tumor is formed by enlargement of the inosculating twigs. By the dilatation of vessels which in the healthy state would hardly have been visible to the naked eye, is the pulsating mass composed." The sacculi which have been described as constituting these tumors, Mr. Burns suggests to be merely convolutions of a dilated vessel, and to resemble in their structure the vesiculæ miniales. The following remarks however, upon the cure of this disease, we are compelled to notice for the purpose of refuting the doctrine which they inculcate.

"From the description of anastomosing aneurism, it will appear to be a peculiar affection of the vascular system, and therefore not to be treated on the general principles applicable to true aneurism. In the latter, we tie the great artery considerably above the aneurismal spot, and we allow the tumor to decay from operations carried on within itself; in the former, we must proceed on a very

different principle, for were we to rest satisfied by securing the arteries passing into the tumor, we would only suspend its growth till the collateral vessels had enlarged. So soon as this took place, and experience proves that it is not a tedious operation, the tumor would again be supplied with blood, and would again resume its peculiar character, and proceed in the extension of its limits. Any attempt, therefore, to cure this disease, by ligature of the arteries which support it is entirely out of the question."

Now it has been proved by the case related by Mr. Travers in the second volume of the Medical and Chirurgical Transactions, that the ligature of a trunk is sufficient to effect the cure of this disease in its minute ramifications, for by the ligature of the common carotid, this disease in the orbit was completely cured, and we regard the establishment of this point as very important in the treatment of this disease. Indeed we should *a priori* have imagined that the diminution of the force of the circulation would allow the establishment of those processes which take place in the cure of aneurism in general, and the contraction and obliteration of these small sacs, is at least as reasonably to be expected from a diminution of the current passing through them, as of the large ones which are daily cured by operations in the extremities. Mr. Burns does not regard the complete and total extirpation of these tumors as a point of vital importance, provided the hæmorrhage can be commanded by pressure. Our own experience however, compels us to protest against this doctrine, since we have in two instances known the disease return after imperfect operations.

Tracheotomy is a legitimate object for discussion in this work. We believe it to be an operation which has been much neglected, from an exaggeration of the danger of its performance, and the speedy fatality of the cases in which it is recommended. These are either where a foreign body is impacted into the larynx or trachea, or where the passage of air into the lungs is impeded by the pressure of tumors in the neck, or cases of asphyxia. There can be no doubt of the propriety of cutting out foreign bodies lodged in the larynx, and where they have fallen into the trachea and excite violent irritation and inflammation, it may be necessary to make an opening into the canal for their removal. It was commonly thought, that where a foreign body had descended through the trachea it could not be extracted by any opening made into that canal; Favier however, found that after introducing a pea farly into the trachea of a dog, it was expelled through an opening made into the windpipe, below the thyroid gland, by the

force of the air passing from the lungs; and Mr. Burns relates a case in the human subject which confirms the opinion that tracheotomy may be useful even where the extraneous body may have fallen to the bottom of that tube.

"About twelve months ago, during the autumn, a young woman called on me relative to a plumb stone which had passed into the trachea. The account which she gave of the accident was, that she had been eating plums two days before—that in a hurry she had incautiously attempted to swallow, at the same time that she was inspiring. She was conscious that a stone had at this instant entered the windpipe, where it excited considerable irritation, and long continued and severe coughing. The latter had greatly abated in the course of a few hours, and at the time I saw her was only momentarily excited by forcible expiration. I examined her carefully, and ascertained that while she was taking air into the lungs, the foreign substance descended with rapidity along the trachea, to the point where it bifurcates, from which, during expiration, it was again forced up into the larynx, but could not, by any effort, be projected through the rima. During its ascent and descent, it was productive of a tickling sensation along the course of the trachea."

There also can be no doubt of the propriety of this operation in many cases where abscesses and tumors press upon the larynx and impede respiration, and in chronic inflammation, thickening or ulceration of the larynx and glottis: the impossibility of defining the extent of the lymphatic effusion in croup, will also render its trial in some instances of that disease admissible. In cases of asphyxia however, we very much doubt the necessity of its performance, because we believe, that where there is no derangement of the natural condition of the parts, and no mechanical obstruction, it is in all cases possible to inflate the lungs through the natural inlet into the trachea. The introduction of an instrument into the rima glottidis, through the mouth, is in the living subject an object of so much difficulty that many have questioned its practicability; Desault however, found that a properly curved tube, passed along the right nostril, slipped very readily into the opening of the glottis, and, as in most cases of asphyxia, the irritability of the muscles of the larynx is suspended there will be no impediment to the introduction of the instrument and the inflation of the lungs. There is however, a mode of inflating the lungs still more simple than this, for if the cartilages of the larynx be pressed against the vertebræ, so as to close the œsophagus and prevent the passage of the air into the stomach, and at the same time the mouth and left nostril be closed, and the pipe of a pair of common bellows in-

serted into the right nostril, the air will unquestionably pass into the lungs through the rima glottidis, because that is the only opening through which it can pass; its passage into the œsophagus or its egress through the mouth or left nostril being prevented in the manner above described. The practicability of thus inflating the lungs we have repeatedly ascertained upon the dead subject, and the facility with which it is accomplished, the readiness of the apparatus, and the absence of all subsequent inconvenience, render it in our opinion far preferable to all other modes of effecting that object.

Where it is decided that the windpipe should be opened, it is a disputed point whether the operation should be performed upon the larynx or the trachea. Many surgeons who have repeatedly performed this operation, amongst whom we may mention Mr. Astley Cooper in this country, and M. Pelletan in France, prefer making the opening into the larynx between the thyroid and cricoid cartilages, whilst others condemn this situation, from the alleged irritability of the larynx and the irritation which the presence of a canula would excite in this part of the tube; an inconvenience however, which those who have performed the operation do not remark, and which the result of their practice proves at least not to form an impediment to the success of the operation. The objections however, to tracheotomy are certainly considerable, not merely from the danger of wounding vessels which come from the thyroid gland or the gland itself, but also from the more alarming chance of cutting the great vessels at the root of the neck; namely, the arteria innominata, or the left subclavian vein, not to mention varieties which occasionally exist in the origin of the carotids and in the distribution of the vessels of the neck and shoulder. Some years ago tracheotomy was performed in one of the hospitals of this metropolis, upon a number of persons who died from suffocation: in the majority of these cases it was found upon dissection, that the left subclavian vein had been wounded in the operation. Probably the peculiar mode of death in these subjects may have rendered the vein very turgid and prominent. There is also another objection to tracheotomy, which we do not remember to have been noticed by any author, but which in our opinion is of considerable importance; namely, the absolute necessity which there must be to keep the head in one steady position for some time after the operation, for, if it be moved the trachea also will be moved, and the relative position of the opening into the tube and that in the integuments will be altered, and the former, when the chin is brought downwards, will pass into the

chest, and a dangerous emphysema may be the consequence. After all however, the peculiar circumstances of the case must often determine the situation of the opening; if the disease exist at the glottis, or a foreign body be lodged in the larynx, of course this part of the tube should be the seat of the operation; if it be required where a tumor exists in the neck, or a foreign body has passed into the trachea; it may be necessary to make the opening lower down; if it is to be attempted in asphyxia we should prefer laryngotomy, but we believe that in all such cases it is possible to inflate the lungs in the manner which we have described.

We feel confident that we have justified the opinion of the demerits of this production, which was expressed in the early part of this article. We have adduced but a few of the specimens of extraneous matter, and crude doctrines which it contains, and its sins of omission must be acknowledged when we report our vain attempts to find a notice of the operation of trephining, of stopping hæmorrhage from the nostrils, of extracting polypi, of the accidents and diseases of the vertebræ, or of the articulation of the lower jaw, of the wry neck, of the internal structure of the larynx or pharynx, and innumerable other important subjects. The extracts which we have given exhibit the verbose didactic style in which it is written, and we have more than once thought there was an attempt to imitate the habits of Mr. John Bell, especially in the pompous manner in which extracts are made from the author's case book, and probably in the employment of such terms as "the ticklish condition of an artery," "the breaking down of a trunk into branches," "full and instantaneous sweep of the scalpel," "fiery pimples," and "lacerated looking holes."—If such have been the exalted object of Mr. Burns's ambition, we can assure him that he has but ill-succeeded, and that in point of view his work can be regarded only as a bad imitation of a bad thing.

ART. VI. *Observations on the use of Caustic Alkali, in Scrophula, and other Chronic Diseases.* By Joseph Brandish, Surgeon to his Royal Highness the Duke of Sussex, &c. 8vo. pp. 48. Reynolds and Son, London. 1811.

An Essay on Scrophula; in which an Account of the Effect of the Carbonas Ammoniacæ as a Remedy in that Disease, is submitted to the Medical Profession. By Charles Armstrong, M. D. Member of the Royal College of Surgeons in London. 8vo. pp. 82. Cadell and Davies, London. 1812.

THEY who can bring to the perusal of these pamphlets a sufficient portion of faith, will derive no little consolation from their contents. To come at once into possession of two remedies for a disease, for which many have been taught by experience to believe that no remedy exists, is to acquire a most important accession of medical power; and when the extent of the disease is considered, the promised benefit becomes incalculable.

The less credulous, and the less sanguine likewise, will look with considerable suspicion at these proposals. They will not be able to divest themselves of the remembrance of many remedies which have been presented to public notice, with pretensions equally flattering, and which in despite of all the efforts of the projectors to prop their reputation, have been consigned to oblivion. They cannot forget the praises lavished in succession upon coral, os sepia, cicuta, terra ponderosa, oxygen, oxalis, muriat of lime and the like, with the fate of the hopes which were excited by them; and they must therefore be pardoned, if unable to resist the apprehensions which will intrude, they tremble for the effects which time and experience may produce upon the antiscrophulous powers of "caustic alkali" and "carbonas ammoniacæ."

It may indeed be asserted, that Mr. Brandish "having for more than twenty years" pursued his plan of treating scrophulous affections "with singular success, in almost every trial to effect their cure," it has already withstood the appalling influence of time and experience. To this probation we are willing to give due weight, but to complete the evidence we want the sanction of other practitioners; for we have often had occasion to observe in regard to new remedies, that cases year after year will seem to shape their issues at once to the accom-

moderation and deception of the discoverer, when their inadequacy has manifested itself on the first trial by another. This phenomenon, strange as it may seem, 'we think we could explain without wandering beyond laws well known in the government of human opinion. The sanction of others could not however be obtained until the auspicious period when this pamphlet was given to the world, because as Mr. B. informs us, "it has hitherto been kept a secret both from his medical brethren and the public at large." Against this conduct it seems many have remonstrated, but without effect; as it appeared requisite that the plan should be tried upon London constitutions in London, before it was to be deemed perfect. This trial need not have been delayed, we presume, until it might suit Mr. B. to conduct it himself, as many surgeons in the metropolis must possess candour and intelligence sufficient for the purpose. Indeed no such difficulty could have existed, for he tells us that he had a long conversation with Mr. Hunter, when he was preparing to exercise his skill upon three patients who were going with him from London to Alcester where he then resided; and we are further informed in a note affixed to the first case inserted near the end of the pamphlet, that Mr. Cline and he "were contemporaries at St. Thomas's Hospital, in the years 1771, 1772, and 1773, and have kept up an occasional correspondence ever since. Some years ago," he continues, "I sent him three remarkable cases which are published in the Medical Journal. One was a case of a gun-shot wound, &c. &c." Now this information, which is most forcibly dragged in on the mention of a bone which is in the museum of Mr. Cline, is decisive against the vindication of Mr. Brandish's secrecy; with such a friend and correspondent in London, the trial of the remedy could not stand in need of his superintendence. The probability of any other man's competency did not perhaps occur to Mr. B. and therefore in the spring of the year 1808, he brought the plan of treatment to London; the result of his experience in the three succeeding years is not more astonishing than gratifying to us. "From that period," says he, "I have been constantly resident in town, have treated many afflicting and aggravated cases of scrophula in patients of all ages, and can with the greatest confidence affirm, that their recovery has, in point of time, been *rather more rapid*, and for the purposes of future and lasting health, in my opinion, quite as complete as any I have ever accomplished under the boasted advantages of country air exercise."

Our readers will naturally wish to become acquainted with the accident or train of reasoning, by which Mr. Brandish was conducted to the use, or 'the discovery of the efficacious remedy,' of which he has at length made "that public disclosure which the credit of our profession and the cause of humanity seemed to require." If the following quotation should fail in satisfying this laudable curiosity, we can only regret that the book furnishes nothing better.

"It struck me that mercurial ointment, in small quantities properly rubbed in, would disperse scrophulous tumours, as it is known to do venereal ones. Being aware, however, of its pernicious tendency to weaken the system and break down the blood, and being persuaded that the mischief of the remedy might upon some occasions be equal to that of the disorder, I was of course desirous to accompany it with something, which should wholly counteract all baneful results, and make the action of mercury in all respects safe and salutary to the constitution. With this view then, I have given internally the alkaline medicine of tonic and deobstruent qualities, which effectually serves to counteract the bad qualities of the mercury, and by so doing assists it in its cure of the original disease."

Very few who peruse this passage can escape being struck by that peculiar propriety of inference which could pass from venereal to scrophulous tumors in the manner there exhibited. Many we fear will conclude, whatever the author may have designed to convey, that the origin of the discovery of the power of mercury externally employed, is here related; and that if any thing like discovery appertain to the alkaline medicine, it is only of its capability to perform the part of an auxiliary by counteracting the mischief which the remedy might produce. If this conclusion be true, and we must confess that to us it appears unavoidable, the pamphlet ought to have been entitled observations on the use of Mercurial Ointment in Scrophula. Perhaps the author who is a wary if not a crafty man, taking into his prudential consideration the weighty prejudices which mercury is doomed to bear, might apprehend that his plan of treatment would unavoidably "break down," if exposed to that load of opprobrium which every thing like a mercurial course must sustain. Many reasons might be adduced to prove that Mr. B. really intended to place his chief reliance on the mercurial ointment; we shall however, content ourselves with offering none of these.

"I think it right to state that I have always been accustomed to give the alkali accompanied with the mercurial ointment during

the milder part of the year." Again, "Being fearful of my patients taking cold, and being convinced that too long a perseverance in any medicines at one time, is calculated to lessen their effects upon the constitution, by making them too familiar, I judged it expedient to confine the use of mine to a limited period; and that the most distinguished for its mildness the year could afford. How far it may be proper to continue the treatment throughout the winter, is a question I shall leave to the determination of others. It is obvious that there can be no objection whatever to giving the alkali, in other disorders, at any season of the year."

"If the caustic alkali were in fact the remedy intended to be recommended, we might surely be allowed to exhibit it during the winter, for the relief of the scrophulous as well as for the relief of those afflicted with any other disorder; avoiding in all, the fault of making it "too familiar." If on the other hand the mercurial ointment be the article on which reliance is placed, and the alkali an auxiliary, by counteraction, the conduct of Mr. B. although not understood by himself, becomes intelligible: it would be useless and superfluous to exhibit the corrective, when the blood and the constitution are not exposed to the mischiefs of mercury. Nevertheless the alkaline solution, being "the remedy," and "the efficacious remedy," according to the author, we think it necessary to inform our readers how the solution is prepared. "The formula in which I have been accustomed to make the alkali, I shall," says Mr. B. "now deliver. I have used it in the same manner for more than twenty years."

R. Ciner. clavellator. Americanr. lb. vj.

Calcia viv. recent.

Ciner. ligni combusti. aa. lb. ij.

Aq. bullient. cong. vj.*

After directing us to "boil the water in a tin kettle, and while the water is boiling hot to put the lime into it a small piece at a time," then to put in the pearl ashes, then the

* In a note we are told that "the original way of preparing the alkali was,

R. Calcia viv. recent.

Ciner. ligni combusti. aa. p. æ.

"The addition of the pearl ashes makes the medicine more soft and palatable." How the taste can be gratified by increasing the quantity of the effluvia part, we cannot discover; or why, supposing the proportion of water to be the same, therefore this alteration was made, trebling the quantity of the action ingredient should be attended with no other effect than accommodating the palate."

wood, when to put, altogether into an earthen jar, with a wooden spout and faucet fixed in it; with other instructions about rovers or herds and small chips or pieces of wood, we are presented with the following specimen of Brachish's singular nicety in preparing the celebrated medicinal medicine: "As a commentary on this formula, let him see that the pearl ashes should be of the purest American sort; the lime should be fresh from the kiln; the ashes should be made from the branches of the ash tree; they should be burnt, as soon as may be, after the wood is dry, and the ashes should be kept quite fresh." This is the very essence of precision. Of the solution thus prepared, from one to three tea-spoonfuls, recommending the dose to the age of the patient, and to be administered three times daily in a small tea-cupful of fresh small beer or ale.

It is but justice to the author to state, that under the influence of "that free and liberal spirit of communication," now escaped, after remaining in durance vile for twenty years, he seems determined to pour out all his knowledge. Accordingly he presents to us the copy of his recipe for making *basilium flavum*, cerate, *linimentum arcei vel unguentum gummi elmi*, and pomat. saturn. goulard: and he likewise says, for which information may we never cease to be grateful, "if they (scrophulous tumors) tend to suppuration, I constantly apply a poultice of bread and milk *without any grease to it*, night and morning, and put it on sufficiently thick to keep soft for twelve hours." Notwithstanding this newly found and most laudable disposition to communicate, we lamentably have occasion to notice "lurking in the constitution," a little of that virus which generates the mischievous "designs of those who boast the possession of a secret." Having inserted ample directions for preparing that which he supposes to be both principal and auxiliary, the alkaline solution, Mr. B. next gives the following directions for making, what he proves to be in his own estimation the principal.

"The form in which I have prepared the mercurial ointment is as follows: "

R. Argent. viv.

Axung. porc. aa lb. j.

Put the quicksilver into a marble or stone mortar, add a small quantity of the fresh liquor, and rub it for some time with a marble or stone pestle; add by degrees the remainder of the fresh liquor, and rub it till the globules completely disappear, or in other words, till the quicksilver is completely killed."

Reader, mark well what follows.

"I do not put any mutton suet into it, because I think the ointment rubs in better without it."

Now of the liquor aforesaid or of its quantity, all our diligent search has not enabled us to find any traces.

Actuated by a laudable desire to leave nothing uncommunicated, Mr. Brandish has given very minute directions respecting the diet and clothes of the scrophulous. So great indeed is the importance of diet in his views, and especially of a "regimen of good ale," that after all, we are not quite certain that ale is not "the remedy" "the efficacious remedy" intended by this pamphlet to be celebrated. "At dinner eat roast or boiled meat with some good fresh porter or ale to be taken, and at supper with cold meat or bread and cheese, again, "some fresh porter or ale." So much stress seems to be laid upon good ale, that if patients have not recovered under this plan of treatment, or if having recovered they have "broke out again," the fault has been found, not in the plan or its discontinuance, but in the neglect of this potent beverage."

Thus, says Mr. B.* "I ought not to omit mentioning that I have lately had an opportunity of trying the alkaline medicine with the mercurial ointment in a few cases in hospitals, and notwithstanding the foul air of those places, I have little doubt from what I saw of the result, that if the patients were to be indulged with plenty of fresh meat, to receive a proper allowance of good fresh porter or ale, and were permitted to walk out when the weather is fine, the major part of them would recover."

And again,†

"Here it may not be improper to observe, that several gentlemen's sons and daughters, who have been for a length of time under my care, and have gone directly from me to a boarding school, have broke out again; and this I have no doubt was entirely owing to their having exchanged their regimen of good ale, and an occasional glass of wine for poor small beer. The meat at the public schools is in general very good. But it may not be amiss to remark, that the beer is in general very weak, and sometimes very bad."

With the following luminous paragraphs, containing an enumeration of the other chronic diseases curable by the alkaline solution, we shall conclude our extracts from this demi-empirical performance. "The alkali is not only useful in scrophula, in asthma, in the coughs of old men, in stomach diseases arising from obstructions in the organs immediately serving digestion, in dyspepsia; and in all diseases in which

acid is generated, whether in the primæ Viæ, or in the urinary organs, it is of the greatest service." "Perhaps then we may be allowed to presume, that in all disorders of obstruction, whether glandular-obstruction in the shape of *conglobation* and approaching schirrus, of tubercle, acid concretion, or whatever may be the shape it may assume, that alkali in its pure state is the remedy."

To the second publication announced at the head of this article, we are desirous to direct the attention of the medical man, because by our own experience and that of several pioneers on whose observation and testimony we can rely, we are enabled to join Dr. Armstrong in his commendation of the carbonate of ammonia. For several years, we know that it has been employed in a public institution in this metropolis, as well as in the private practice of some of the medical officers connected with it, with very considerable advantage. In making this statement we are far from intending to oppose Dr. Armstrong's claim to originality: the candid and ingenuous manner in which he writes, induces us to give full credit to the declaration that "he has no recollection of either written or oral testimony in favour of the volatile alkali in scrophula:" and with the experience above alluded to, we certainly do not apprehend that he could have become acquainted.

The observations on scrophula, which occupy the principal part of this well written essay, are so familiar to the intelligent part of the profession and so generally admitted to be correct, that they do not demand particular notice from us. To some of our brethren we may hint, and the hint might be advantageously extended to those who have the domestic management of children, that their patients would be essentially benefited by their attention to some very sensible and pertinent remarks on the use of stimulating food, fermented liquors, sea-bathing, and exposure to cold with the expectation of producing robust constitutions, or hardening as it is metaphorically and dangerously termed. We may also express our approbation of the remarks which Dr. A. has made on the medicines commonly resorted to for the cure of the scrophulous, with the exception of those on burnt sponge, an article which we venture to pronounce "perfectly inert;" although at the risk of being classed with those who may be suspected "either of wanting sufficient experience, to enable them to ascertain the value of the medicine, or else; of never having given it a fair trial." Chemical examination may have detected a large proportion of volatile alkali in sponge, and yet calcined sponge

may nevertheless be nothing more than charcoal united with a little muriate of soda and phosphate of lime, as the ammonia would certainly be expelled during the process of calcination. As Dr. A. believes that volatile alkali and muriate of soda are the active parts of the remedy, why does he object to the exhibition of an infusion of burnt sponge in water, both these substances being soluble in it: yet he says "this is a sacrifice of real utility; for the infusion will prove, on trial, to be very inferior in effect to the calcined sponge in substance."

In the first instance, Dr. Armstrong was induced to give ammonia in a scrophulous case without any view to its antiscrophulous power: he administered it as has often been done, in combination with bitter medicines, to improve the appetite of his patient and give tone and energy to the system. Finding that the scrophulous affection diminished, the medicine was continued; and at length, without any alteration being made in the plan, the patient recovered. With the reasoning which followed, which is not very satisfactory, we have nothing ~~to~~ excepting as it led to the administration of ammonia in many other cases of scrophula, and has therefore enabled the author from ample experience to pronounce it to be more generally useful than any remedy within his knowledge, and to declare that "even under the most unpromising circumstances he has scarcely ever given it without manifest advantage to the patient." The ammonia is administered dissolved in the compound infusion of gentian, in the proportion of two scruples or one drachm to seven ounces and a half of the infusion; half an ounce of tinctura gentianæ composita being added. Of this mixture three table-spoonfuls are given three times daily. The mixture for children contains only half the quantity of ammonia, and the dose is adapted to the age, varying from half an ounce to an ounce and a half.

Important as the disease under consideration must necessarily appear to the medical practitioner, we are afraid to trespass longer at this time upon the patience of our readers by extending this article much further; otherwise we should offer a few remarks on the subject, derived from circumstances that have fallen under our own notice. We must however, be allowed to add, that on the value of mercury as a remedy for scrophula, we are completely at issue with Mr. Brandish. Our objections to that medicine we are glad to fortify by an appeal to the authority of Dr. Saunders, with whose prejudices against the use of mercury in general, we are by no means disposed to coincide. "In strumous habits," he asserts, that "mercury is almost invariably prejudicial, and can only be

exhibited with extreme caution, and at considerable intervals; and indeed so injurious is this powerful metal to such constitutions, that if we were required to produce struma by artificial means, the action of mercury would probably the soonest accomplish the purpose." The regular employment of nutritive but unstimulating food, long continued immersion in sea air, and the steady administration of cinchona, ammonia, and iron, avoiding the inefficacious peroxide, or carbonate of iron as it is now termed, will often we are persuaded, completely eradicate this loathsome and destructive disease, and will always at least, arrest its progress.

Phil. Trans. Chemical Researches on the Blood and some other Animal Fluids. By William Thomas Brande, Esq. F.R.S. Phil. Trans. Part 1, for 1812.

ANIMAL chemistry, the most obscure and difficult branch of the science, has already been enriched by the active and ingenious experimentalist whose memoir is now before us. A former volume of the Philosophical Transactions contained an account of some well devised experiments, instituted for the purpose of ascertaining the composition of serum and other animal fluids; and estimating by this favourable specimen of the talents of Mr. Brande, his fitness for the present undertaking, we entered with no common expectation upon the inspection of a more extensive investigation respecting the most important of these fluids.

In this instance, one substance and that belonging exclusively to the blood, was the leading object of inquiry. In the prosecution of it however, other substances presented themselves to the notice of the author, as demanding examination before he could proceed with perfect satisfaction: and to this circumstance we are indebted for some very valuable information respecting the composition of chyle and lymph; which is not only more accurate, but if we mistake not, much more ample than any heretofore offered to the physiologist. Besides possessing more effectual means than his predecessors for decomposing the animal fluids, Mr. Brande appears to have had better opportunities for supplying himself with some of the fluids on which he wished to operate. In attaining these

opportunities Mr. B. has acted, we are inclined to believe, with a laudable degree of humanity; for instead of sacrificing animals to answer the purpose of his enquiry, he took advantage, whilst engaged in assisting Mr. Hume in his physiological researches, to collect the materials for his own experiments. This we feel ourselves in justice bound to state, having on a former occasion taxed with unproductive and extravagant expenditure of animal life, the experimental conduct of one individual belonging to the same school.

An examination of the chyle and lymph in order to compare their composition, with that of the blood, appeared to Mr. Brande to form an important part of his enquiry. Accordingly he collected in a state of purity a sufficient quantity of each fluid for examination: the former from the thoracic duct about four hours after an animal had taken food, and which he somewhat erroneously considered to be pure chyle; the latter from the same vessel when the animal had been kept for twenty-four hours without food. This seeming in no respect to differ from the fluid contained in the proper lymphatics, he considered to be pure lymph.

Chyle is represented to be an opaque fluid of a perfectly white colour, without smell but with a slightly salt and sweetish taste. In about ten minutes it had acquired the appearance of stiff jelly, and in twenty-four hours had separated into a coagulum, firm and contracted, and a fluid, colourless and transparent. The colours of litmus and turmeric are not affected by chyle, although the blue infusion of violets was slowly changed to green by it. The coagulum of chyle resembles the caseous part of milk more than the fibrine of blood. Of the action of the alkalis which dissolve this coagulum, and of the mineral acids, which when diluted also dissolve it, a minute detail is given: we shall only however stop to mention, that nitric acid, after acting upon it some weeks, converts it into adipocire, and diluted with three parts of water, dissolving a part, leaves a substance remaining with the properties of gelatine. By the destructive distillation the usual products of animal matter were obtained; and the residuum consisted of muriate of soda, phosphate of lime, and slight traces of iron. The serous part of chyle is shewn to contain some albumen with saccharine matter strongly resembling sugar of milk, and like it by means of nitric acid convertible into the saccholactic acid of Scheele. Charcoal, with phosphate of lime, and muriate and carbonate of soda were obtained by the destructive distillation of this part of chyle.

Lymph when exposed to the action of alcohol, acids

and alkalies underwent no change, except being rendered slightly turbid by the first of these agents. Vegetable colours were not affected by it with the exception of the infusion of violets, which as by the action of chyle before noticed, was rendered green, but not until applied to the residuum after evaporation to dryness. By exposing it to electro-chemical analysis, portions of albumen were exhibited; alkaline matter being evolved at the negative and muriatic acid at the positive surface of the battery. After destructive distillation a little muriate of soda without any iron remained.

The experiments on that part of the serum which is commonly termed serosity, detailed in the next section, confirm the opinion maintained by Mr. Brande in the paper before alluded to, that gelatine does not, as generally believed, exist in the fluid, and that it is a compound of albumen with excess of alkali. We shall only briefly notice the very conclusive results obtained by placing the serum in the voltaic circuit. Into one ounce of serum diluted with three ounces of water, the conductors from a small battery were introduced at the distance of two inches from each other. Solid albumen was deposited, and occasionally removed, for the space of ~~three~~ hours, after which a mere decomposition of water occurred. From this fluid when infusion of galls was added no precipitate was obtained, nor was any gelatine afforded by evaporation to dryness. When the albuminous part had been separated by adding one ounce of muriatic acid to two of serum, assisting their action by heat, neither electricity nor infusion of galls produced any change on the filtered fluid. But when in another experiment a small quantity of isinglass had been previously added to the serum, a copious precipitate was produced by the infusion of galls, after complete separation of the albumen by the voltaic power. On examining the solid matter of serum obtained by evaporation, after incineration, it appeared to consist of some particles of charcoal, a considerable quantity of phosphate of lime, and slight traces of iron.

In the fifth section, entitled some experiments upon the coagulium of blood, the author enters into some details by which he has shewn that the quantity of iron was similar whether obtained from the ashes of the coagulium of blood allowed spontaneously to coagulate, or of that which was procured by stirring the blood whilst it was becoming solid, and thereby diffusing through the serum the principal part of the colouring matter. In both cases the iron was so small in quantity as nearly to have escaped observation: nay even, when the colouring matter of a pint of blood collected after sub-

sidence from the serum in which it had been diffused, was incinerated and examined, the traces of iron were equally indistinct as the former. These results it may be remarked are at variance with those of Rhades, Menghini, and others. Rhades, who first noticed the existence of iron in the blood and not Menghini as stated by Mr. B. in the introduction to his paper, obtained ten grains and a half of iron from eleven ounces of blood, and Menghini represents it to constitute an hundredth part of the whole mass. We cannot hesitate however, in preferring the conclusions of Mr. B. to those of the earlier chemists.

Having thus disposed of two very general errors, Mr. Brande proceeds in the next section to deliver an account of his researches on the colouring matter of the blood; the object which he had principally in view in undertaking these experiments. For procuring this substance, Mr. B. generally employed the serum of venous blood, through which it had been diffused by agitation during coagulation. Not being readily dissolved by serum the colouring matter gradually subsides, and remains when the supernatant liquid is poured off, in a very concentrated form. Examined by the microscope this matter appears to consist of minute globules, as first noticed by Lewenhoeck, which when mixed with water are not dissolved as Mr. B. and Dr. Young contend in opposition to common observation; but still retaining their figure, impart to it the colouring matter, and are then found according to Dr. Young, floating upon the surface. If this account be correct, and when the mistakes into which microscopical observers of the red globules have been led by the deceptive information of their instruments is remembered we shall be excused for entertaining some doubts, it follows of course, that the colour of these globules is superficial: at least it seems to us that this must be the case, in order that the globules may be entirely deprived of colour by immersion in a fluid incapable of acting upon the substance with which the colouring matter is united. We hope that Dr. Young will cautiously repeat the experiments which he is now preparing for publication, since without very great circumspection, he may be drawn into the erroneous path which was pursued by Mr. Hewson, one of his precursors in this enquiry.

As this is the first attempt which has been made to ascertain the properties of the colouring matter of the blood in its detached state, a copious account of the several particulars observed, will we doubt not be acceptable to many of our readers. On the solution already mentioned Mr. Brande makes the following remarks:

"This aqueous solution is of a bright red colour and not very prone to putrefaction. When heated, it remains unaltered at temperatures below 190 or 200° of Fahrenheit, at higher temperatures it becomes turbid and deposits a pale brown sediment. If in this state it be poured upon a filter, the water passes through without colour; so that exposure to heat not only destroys the red tint, but renders the colouring matter insoluble in water. Alcohol and sulphuric ether added to this solution also render it turbid, and when these mixtures were filtrated a colourless and transparent liquor was obtained. The matter remaining upon the filter was insoluble in water, in alcohol, and in sulphuric ether; but when digested in dilute muriatic or sulphuric acid a portion was taken up forming a brown solution. I regard this soluble portion as a modification of the colouring matter produced by the operation of heat: the insoluble residuum had the properties of albumen."

Muriatic acid, and the sulphuric when largely diluted, quickly dissolve the colouring principle of the blood; the latter entirely, the former only partially, rendering one portion bright brown and nearly insoluble: the muriatic solution has a dark crimson colour when viewed by reflected light, the sulphuric a beautiful bright lilac colour. Both the solutions acquire from transmitted light a green colour, which is indeed observable in all the acid solutions, and in some in a very remarkable degree. Nitric acid even largely diluted, always produces a decomposition of the colouring matter, and a few drops convert to a dark brown, the solutions just described. Acetic, oxalic, citric, and tartaric acids are active solvents of this part of the blood, exhibiting different shades of red or scarlet when seen by reflected light.

Each of the alkalis both in the pure and carbonated state, forms a deep red compound with the colouring principle of the blood: these solutions are very permanent: the red colour is retained even when they are evaporated nearly to dryness. If the alkaline solutions are supersaturated with dilute sulphuric or muriatic acid, they acquire a colour similar to that of the direct solutions in these acids; whilst nitric acid previous to the saturation of the alkali heightens the colour of each compound, and when in excess, renders them first orange, and lastly yellow.

Concluding that like the colouring matters making a part of other coloured substances, that of the blood might be brought firmly to adhere to different surfaces by means of the affinities of intermedia, M. Brande in order to complete the enquiry, endeavoured to discover appropriate mordants. Alumine and alum both much employed with this intention by the dyer, he found inefficient, the colours though bright not being permanent. Oxide of tin combined with the colouring prin-

ciple by mixing muriate of tin with the aqueous solution, lost its brilliant tint and became a dull red when dried by exposure to the air of a warm room: the attempt was equally unsuccessful when potash was added more completely to decompose the muriate, or when supertartrate of potash was presented to the oxide and colouring matter, in imitation of the process for dyeing scarlet with cochineal. The brilliancy of colour although considerable was never permanent. The alkaline solution of colouring matter with a solution of tannin, gave a colour equal to that of a common madder red and apparently fixed; but the most effectual mordants discovered by Mr. Brande are solutions of the nitrate of mercury and corrosive sublimate. By impregnating pieces of woollen cloth with solutions of nitrate of mercury and corrosive sublimate and immersing them into the usual solution of the colouring matter of the blood, he succeeded in imparting to them a permanent red tinge, unalterable by the action of soap. By employing the aminoniacal instead of the aqueous solution with the same mordants, calico and linen will receive a permanent colour.

Mr. Brande had an opportunity whilst engaged in examining the colouring matter of the blood, of analysing some of the menstrual discharge collected from a woman with prolapsus uteri, and therefore unmixed with other fluids. It exhibited the properties of a very concentrated solution of the colouring matter of the blood in dilute serum, and when exposed to the usual analysis no traces of iron could be detected: had the intense colour been derived from iron, this metal ought to have been discovered in proportionate abundance. No globules could be perceived in this fluid, although putrefaction had not advanced so far as to have occasioned their destruction. Like artificial solutions of the colouring matter of the blood, this natural discharge exhibited a green tint when viewed by transmitted light. These circumstances with others on which we cannot now with propriety enlarge, tend to establish an opinion entertained by many respecting the uterine discharge. According to these physiologists, it does not consist of blood poured into the uterus directly from the vessels spread upon its internal surface, but is the result of that species of vascular action which constitutes secretion; or in other words it is not blood which is poured out, but a secreted fluid strongly resembling it.

That our readers may be enabled to obtain a complete and connected view of the results of these investigations, we have extracted from the remarks on the experimental details which constitute the concluding section, the following statement.

“ From the experiments related in the second section, it appears

that sulphuric acid effects changes upon the coagulum of chyle similar to those which Mr. Haichett has observed to result from the action of dilute nitric acid upon the coagulated white of egg. This last substance however, is not convertible into gelatine by means of sulphuric acid, whereas in these respects the curd of milk resembles that of chyle: this circumstance as well as the more ready solubility of the coagulum of chyle in dilute, than in concentrated acids, points out a strong analogy between those two bodies.

The experiments to prove the non-existence of gelatine in the serum of blood, will, I trust, be deemed sufficiently decisive: they shew that that abundant proximate principle of animals is not merely separated from the blood in which it has been supposed to exist ready formed, but that it is an actual product of secretion.

The proportion of iron afforded by the incineration of several varieties of animal coal is much less considerable than we have been led to suspect, and the experiments noticed in the fifth section, shew that it is not more abundant in the colouring matter of the blood, than in the other substances which were submitted to examination; and that traces of it may be discovered in the chyle which is white, in the serum, and in the washed crassamentum or pure fibrina.

The inferences to which I have alluded in the first section, are strongly sanctioned by these facts, and coincide with the opinion which has been laid before the Royal Society, by Dr. Wells, respecting the peculiar nature of the colouring principle of the blood, and support the argument there adduced.

That the colouring matter of the blood is perfectly independent of iron, is sufficiently evident from its general chemical vicissitudes, and it appears probable that it may prove more useful in the art of dyeing than has hitherto been imagined, since neither the alkalies nor the acids, with the exception of the nitric, have much tendency to alter its hue."

Since we became acquainted with the satisfactory experiments performed by Dr. Wells, many of which we have repeated with similar results, we never could adopt the opinion, that the colour of blood is derived from the oxide of iron which it may contain. We also believed, as Mr. Brande now believes, that the variations which under different circumstances its colour has been long observed to exhibit, were dependent upon changes in the arrangement or combination of its constituent parts, and not upon different states of oxidization of iron. Still however, the argument so far as it depends upon Mr. Brande, is left without the full force of demonstration, because he has not given to it that weight which will always be derived from great precision in regard to quantity. When he shews us animal substances which contain iron and yet are without colour, he proves sufficiently that iron is not necessarily connected with colour; but when he asserts

that two fluids differing in the intensity of their colour, do not owe that colour to the iron which each contains, because the quantity in each is similar, we feel dissatisfied without knowing what the actual quantities are, and without determining by actual comparison, that they are equal. They must be exactly equal, or less in the more intense, to make the argument complete. The subject, as we are sure Mr. Brande is well aware, is not yet exhausted; and when he resumes these enquiries for which no chemist is better qualified, we hope he will be fully impressed with the necessity whilst attempting to settle such perplexed questions, of pursuing the most severe and rigorous mode of investigation.

MEDICAL AND SURGICAL INTELLIGENCE.

CONSISTING OF ORIGINAL DESCRIPTIONS OF VARIETIES IN
THE APPEARANCE AND TREATMENT OF DISEASE.

(Communications are requested to be addressed to the Editors,
at Mr. Underwood's, 40, West Smithfield, London.)

Art. I. Report of the City of London Truss Society, relative to the Situation and Occurrence of Hernia at different Periods of Life. Communicated by John Taunton, Esq. Surgeon to that Institution, to the City and Finsbury Dispensaries, and Lecturer on Anatomy and Surgery.

The following statement of the situation and occurrence of hernia, at different periods of life, has been obtained principally from patients relieved by the City of London Truss Society, within the short period of four years and a half, and entirely under my own observation.

In 3176 patients, 2702 were males, and 474 were females, the situation of the hernia in each case will be seen in the following table.

704 left inguinal	}	1910 inguinal	}	2194 single
1206 right inguinal				
154 left femoral	}	284 femoral	}	
130 right femoral				
728 double inguinal	}	- - - -	}	792 double
64 double femoral				
172 umbilical	}	- - - -	}	190
18 ventral				
<hr/> 3176				<hr/> 3176

202	Patients were relieved with trusses under 10 years of age
160	do. - - - - between 10 and 20 - - do.
310	do. - - - - - 20 — 30 - - do.
596	do. - - - - - 30 — 40 - - do.
632	do. - - - - - 40 — 50 - - do.
684	do. - - - - - 50 — 60 - - do.
432	do. - - - - - 60 — 70 - - do.
168	do. - - - - - 70 — 80 - - do.
10	do. - - - - - 80 — 90 - - do.
2	do. - - - - - 90 — 100 - - do.

3176

From the most accurate estimation which I have been enabled to make, I have no doubt of this malady existing in one person in eight through the whole male population of this kingdom, and even in a much greater proportion among the labouring classes of the community, in manufacturing districts, particularly in those persons who are employed in weaving.

Art. II. On the Composition and Use of a new Solution of Ferrum Tartarisatum. By George Birkbeck, M. D. Physician in London.

In consequence of some experiments on the preparation and properties of ferrum tartarisatum which were mentioned in the tenth number of the London Medical Review, I have been induced frequently to employ it dissolved in water, in various states of disease. Having found that the medicinal efficacy of the iron was equal if not superior to that of any preparation in common use; and likewise that the ferruginous flavour was much less perceivable than in any compound of an acid and the same quantity of the metal, I have recommended to several practitioners, its employment instead of vinum ferri, mistura ferri composita, or ferrum vitriolatum. From many of these I have received favourable reports of its operation, and I am therefore desirous through this medium still further to extend the knowledge of it.

When water is poured on ferrum tartarisatum prepared according to the imperfect directions contained in the London Pharmacopœia, a portion is dissolved; but as it contains much metallic iron, with very little of the tartate of iron, a medicine is formed of very trifling power. Even when the ferrum tartarisatum is made according to the judicious direc-

tions conveyed in the publication before mentioned, an imperfect although much more powerful solution is obtained. This solution is imperfect because liable to decomposition and change, even if kept in close vessels. In order to obviate this imperfection, Mr. Phillips who has prepared all the solution with which the trials have hitherto been made, has adopted the following process.* Sixty-four parts of cream of tartar, are to be mixed with thirty-two of filings of soft iron, to the mass during the action of the tartar upon the iron, water should be occasionally added; and the digestion is to be continued until it appears by the test of litmus paper, that the acid is perfectly saturated with iron. To this seven times its weight of water is to be added, which easily dissolves the tartarised iron, when triturated, and the fluid readily passes through the filtre. For the purpose of saturating any redundant acid, Mr. P. has recently added ammonia, expelling that which may be in excess by subsequent exposure to heat. After standing some time there is a deposit of tartrate of lime from the solution thus prepared, which being removed, it is permanently transparent. The colour of the solution is a deep greenish brown, having when the acid has been perfectly saturated, very little of the chalybeate taste. It contains about one eighth part of its weight of tartarised iron, or about 5.3 per cent. of peroxide; indeed the quantities have lately been so adjusted by Mr. Phillips, that each fluidounce of the solution contains exactly sixteen grains of the oxide.

In exhibiting the solutio ferri tartarificati it may be mixed with plain water, or with any of the aromatic waters. It may also be given along with the tonic and bitter vegetable infusions, and with any of the carbonated alkalis, or even pure ammonia, none of these having the power to decompose the tartrate of iron. In all the cases in which iron is indicated this preparation may be employed; and it seems peculiarly well fitted for those disorders in which the nauseous mixture recommended by Dr. Griffiths has been found beneficial. Judging from a few instances in which it has been tried, the combination of this solution with carbonate of ammonia, is likely to afford the greatest advantage to patients labouring under some forms of scrophula, that medicine alone can produce.* The dose for children, who take it without difficulty, should vary according to the age from twenty drops to one drachm: adults may take from one drachm to three; or even half an ounce if sufficiently diluted.

* Vide an Experimental Examination of the last edition of the Pharmacopœia Londinensis, by Richard Phillips, Page 99.

Art. III. Cases of Rupture of the Urethra, succeeding a Contusion of the Perineum, successfully treated. Communicated by John Carter, Member of the Royal College of Surgeons in London, and Surgeon to the 85th Regiment of Foot.

L. Harvey, twenty years of age, a man of a sickly aspect, and deformed cast of body, fell from a height, across a ladder, upon the perineum. Much swelling and tension of the parts from the anus to the scrotum succeeded, with great discoloration. Leeches were applied, and the bleeding encouraged by warm fomentations; after which a poultice was employed, and a saline purgative given, which operated largely during the day. In the evening he took an opiate draught with tartarised antimony, which procured alleviation of his pain, and produced some sleep. The next day he had much tension of the abdomen, and was unable to void his urine. The catheter was introduced without much difficulty, and a large quantity of urine clear and untinged with blood drawn off, and the operation was repeated as often as the patient expressed much uneasiness from distension of the bladder. A similar plan was pursued with little variation for seven or eight days, during which the symptoms were not materially arrested. The discoloration at this time had extended to the scrotum and penis, which were almost buried in the swelling, and which had now become somewhat cedematous. In the night of the eighth day, during a pressing effort to make water, he was seized with a pain of a much more acute kind than what he had before experienced, and on attempting to pass a catheter it met with considerable resistance, and could not now be got into the bladder as usual.

Unavailing attempts were again made to introduce catheters of different sizes and curves, but the obstacle could not be surmounted. The point of the instrument seemed when it had arrived a little beyond the bulbous part of the urethra, to quit the canal and get into a pouch on the left side of the raphe.

The man's health was now becoming much disordered from constant pain. The pulse was rapid, tongue furred, much thirst, universal heat on the skin, appetite lost and sleep disturbed. It was determined to pass the catheter as far as possible, and to make an incision upon its point, which might be felt externally on the left side of the scrotum *per meo*. This was accordingly done to the extent of more than two inches,

through the integuments, much in the same direction as in lithotomy. A large mass of coagulated and grumous blood was pressed out by the fingers, which was followed by a discharge of watery fluid to the extent of a quart at least, of a strong urinous smell, and highly tinged with blood. The catheter might then be distinctly felt and seen, having found its way through the newly formed aperture in the membranous part of the urethra. The patient's sufferings became immediately relieved. A large quantity of water drained off during the night, which reduced the parts nearly to their ordinary dimensions. On the following day, when the dressing was removed, the patient was directed to exert an effort to make water, when the whole contents of the bladder escaped through the wound.

A flexible elastic gum catheter was then introduced, and left in the bladder, through which the man voided his urine, which however, came away partly by the external opening, but chiefly by the catheter, till the wound began to heal. The urine then gradually resumed its natural course, and he perfectly recovered in about a month from the time of the accident, without any other bad symptom.

Art. IV. Case of Ulcers and other Morbid Appearances in the Duodenum, with Changes in the whole Intestinal Tube from previous Disease. Communicated by T. I. F. Davis, M. D. Physician in Bath.

Mrs. Pratt, æt. 40, complained on Friday March 10th, of pain in her stomach, for which she took some laxative pills. These moved her bowels without affording any relief to the pain. On Sunday she was attacked with chills; violent pain at the scrobiculus cordis, but rather towards the left side; and vomiting of every thing taken into the stomach. The pulse, however, was natural, the skin cool, and pressure upon the part did not aggravate the pain. She thought that relief followed the application of hot flannels. Monday. Pain and vomiting as before, with hiccough. Pulse 100. Skin hot. Thirst urgent. Tuesday. The matter vomited had a reddish brown appearance, resembling thin chocolate. Abdomen and epigastric region tense for the first time. Pain and hiccough as before. Pulse 120. Skin hot. Thirst urgent. Wednesday. Became easy last evening in respect to the pain, but the other symptoms continued, and she died at noon.

Blood was drawn from the arm and from the part affected by means of cupping glasses without any abatement of the symptoms. The medicines given were all rejected. No evacuations were obtained although glysters were repeatedly employed.

About eight years ago she laboured under ascites, of which she was cured; since that period she has had two severe attacks of dysentery.

Dissection.—Extensive adhesions between the peritoneum and omentum, particularly near the os pubis. The omentum appeared very red and of greater length than usual. The small intestines were of a bright red colour, and distended to more than twice their usual diameter. The large intestines were for the most part remarkably small and contracted, exhibiting only slight and partial marks of inflammation. On passing the hand between the duodenum and liver, a rupture of the former took place about two inches below the pylorus, and a large quantity of fluid tinged with bile escaped from the intestine. The duodenum was found upon examination to be so thin as to have lost its natural structure: its inner surface was inflamed and marked with distinct ulcerations. This morbid condition extended five or six inches below the pylorus, beyond which the intestine again assumed a more natural appearance. The pyloric portion of the stomach presented upon its inner surface a granulated structure, probably the commencement of ulceration. The pylorus was not at all thickened, but its orifice barely admitted the introduction of the middle finger.

In following the course of the intestines the lower part of the ilium appeared of the natural size, or even smaller, but it was more highly inflamed than any other part of the whole canal. The colon at its sigmoid flexure, and the rectum, were smaller than natural, and bound down by firm adhesions.

There was only a very small quantity of seculent matter in the large intestines, and nothing except the fluid above-mentioned in the small ones.

Art. V. Cases of Intestinal Worms in which the Oleum Terebinthinæ Rectificatum was employed. Communicated by the same.

To one part of my last communication, viz. Effects of Ol. Tereb. Rect. I have to add the case of a boy 12 years of age, to whom one ounce was given followed by half an ounce

two hours afterwards. He was slightly sick, and had only one evacuation from the bowels, with which about ten yards of tania lata was discharged: he is now very well.

The lady, who injected four ounces with the same quantity of warm milk, for ascarides, has since informed me that, to render her case more certain, she soon after injected the same quantity pure and uncombined. It gave her pain, but she was able to bear it, and suffered no other inconvenience.

Art. VI. Notices of several Important Operations for Aneurism.

We are glad to find that the ligature of the external iliac artery in cases of inguinal aneurism has at length been practised upon the continent. The history of the following case, in which it was performed by M. Delaporte, one of the principal naval surgeons at Brest, is extracted from the 7th volume of the *Mémoires de la Société Médicale d'Emulation de Paris*.

Peter-Cleek, a marine, 60 years of age, of a good constitution, was admitted into the naval hospital the 11th of August, 1809, for a tumor in the left groin. This tumor had existed eight or ten months, and extended six inches down the thigh, and five transversely from the spine of the ilium to the pubes. The pulsation was visible and the limb was very œdematous. The tumor had increased to a very considerable extent until the 3d of January, 1810, when the operation was performed in the same manner as recommended by Mr. Abernethy and practised by several surgeons in this country. The only difficulty in the operation was the detachment of the artery in attempting to pass the ligatures with Desault's aneurism needle. Two ligatures ("faite avec les lacets dont se servent les femmes") were applied, but the vessel was not divided in the interspace. Nine hours after the operation the heat of the left limb was greater than that of the right—the heat and sensibility of both were the same on the following day. The limb was continued in a favourable condition, but a phlegmonous swelling appeared in the loins of the same side on the 5th day—the patient was also feverish, his bowels disordered, and his nights sleepless. The œdema had nearly disappeared, the tumor was stationary but softer—on the 8th day the fever had very much increased, but the limb and tumor were in the most favourable condition, and the inflammation on the loins had disappeared. On the evening of the 11th day the tumor

appeared increased in size, it was soft and of a violet colour, but without pain; the wound also had the same appearance—On the 12th day the thigh was cold and discoloured; there were some variations in the tumor and the pulse was small. On the 13th day the mortification extended to the knee, on the anterior part of the thigh only; the pulse was feeble (capillaire) and there was slight delirium. In the night he died. Upon dissection the abdomen was found to be quite healthy, the lower part of the colon on the left side adhered to the peritoneum, opposite to the wound; behind the peritoneum and in the loins was a collection of matter;—the iliac artery was examined from its origin to the crural arch, the sides were thinner and more dilated than in their natural condition—it was not yet obliterated either above or below the ligatures, which were so firm that injection thrown into the inferior part of the aorta, after having tied the primitive iliac of the opposite side, did not overcome the resistance which they afforded. The tumor was filled with foetid clots; the upper end of the artery was under Paupart's ligament. It was at the distance of four inches from the lower, which presented a double orifice by the origin of the profunda and the femoral. The injection entered by the profunda, and was found upon dissection in the femoral artery. The mortification of the limb and the death of this patient unquestionably was not owing to a deficiency of blood after the ligature of the external iliac artery, since the limb lived; the œdema disappeared, and the heat continued natural until the 12th day. M. Delaporte imputes the mortification of the thigh and the death of the patient to the effect of the blood confined in the sac, upon a constitution worn out by the previous fever. We are happy however, in having it in our power to report the successful result of two other cases in which this operation has recently been performed, the one by Mr. Dorsie of Philadelphia, and the other by Mr. Kirby of Dublin. In both cases the operation was perfectly successful.

Art. VII. Case of Digestion of the Stomach after Death.
Communicated by the Editors.

A female infant, five months old, had for some time been afflicted with a swelling of the belly, difficulty of breathing, and green slimy stools, which in the early stage of the disease had been much relieved by mercurial medicines. Upon dissection on the fourth day after death, the liver was found very much enlarged, and of a bright orange colour. It extended

below the navel, and was of a clayey structure. The gall bladder was very large and distended with green bile. The ducts were pervious. Upon raising the liver a quantity of dark coloured pultaceous mass, like linseed poultice, was found in the situation of the stomach, the greater part of which had been dissolved by its own secretions. The whole of the greater end and middle of the stomach, particularly on the posterior surface, were destroyed. The œsophagus was connected with the pylorus only by a slender remnant, which consisted principally of vessels. The edges of the remaining part of the stomach were quite tender and gelatinous. The mucous coat was much more extensively dissolved than the others; what remained of the dissolved portion was a mere mucilaginous film. The concave surface of the left lobe of the liver and the diaphragm around the œsophagus were digested; they were pulpy, tender, and in some places almost fluid. The other viscera were healthy, excepting the mesenteric glands, which were slightly enlarged. The body was not in the least putrid, though it had been dead four days and the weather was very hot: it was not then stiff. The blood was fluid. There were no polypi in the heart. The child ate a cake soaked in water about an hour before death; the appetite throughout the complaint had been ravenous. The body had been kept in the supine posture.

Art. VIII. Case of a singular Mal-formation of the Heart.
Communicated by the same.

An infant was attacked soon after birth with difficulty of breathing and convulsions, and the skin was observed to be of a deep purple colour. The heat of the body however, was not below the natural standard. The child died on the seventh day. Upon dissection the pulmonary artery was found to be deficient, and instead of it there was a slender impervious ligament, extending from the situation of the right ventricle to the ductus arteriosus. The right ventricle was nearly obliterated. There was a mere depression in its situation. The right auricle was large, and communicated by an extensive foramen ovale of which the valve was very imperfect, with the left auricle. The left ventricle and the aorta were natural. The ductus arteriosus was very large and divided into two branches, which entirely supplied the lungs, without receiving any blood from the pulmonary artery.

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THE
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OCTOBER, 1812.

N^o. XX.

ART. I. *Anatomie et Physiologie du Systeme Nerveux en general, et du Cerveau en particulier, avec des Observations sur la possibilité de reconnoître plusieurs dispositions intellectuelles et morales de l'homme, et des animaux, par la configuration de leur têtes.* Par F. J. Gall et G. Spitzheim. Deuxieme Volume. Physiologie du Cerveau en particulier. Avec vingt-sept planches en folio. Premiere Partie, avec quinze planches. Paris, 1812. Imported by Dulau.

[Continued from page 324.]

WE have already followed our authors through their account of the structure of the nervous systems, and have pointed out their principal discoveries, and their opinions with regard to the organisation of the brain.* In this and the succeeding volumes they propose to treat of the functions of the latter, proceeding upon the supposition that they have already proved its organisation to be the same in principle with that of the nervous systems of the abdomen, of the thorax, of the spine, and of the external senses.

In the part before us their object is to establish by observation and reasoning the general principles on which their opinions are founded, reserving for the last volume the additional proofs which they have obtained of the residence of particular faculties in particular organs. In the volume before us they do not therefore proceed far in this interesting investigation of the physiology of the brain; a problem which from its obscurity has hitherto puzzled the most subtle thinkers, and

given rise to some of the most absurd speculations which ever floated in the visionary regions of metaphysics. In what degree our authors have been more successful than their predecessors in this difficult inquiry, or if indeed they have made any advance in it, is yet to be determined. We have been so much gratified by the demonstrative part of their labours, and by their remarks on the functions of the external senses, that we hope we shall not in the end have to class them with those physiologists who may be said to have

“such seething brains,
Such shaping fantasies, that apprehend
More than cool reason ever comprehends.”

They have enlivened what to some might appear a dull discussion, by entering into a variety of important topics, which at first seem a little foreign to their subject. They not only take a general view of the functions of the brain in its sound and deranged states, but enter also into various moral and metaphysical disquisitions, and touch on many points regarding education, and the principles of legislation. We do not think however that in so doing they have gone much out of their way. They have thought right by a general exposition of their principles to endeavour at first to do away the groundless prejudices which had been raised against them; and to lead all to the sober examination of a doctrine which the ignorant and timid had without cause held out as dangerous to religion and morals, and which the wit had degraded by his attempts to render it ridiculous. Regarding also man as a moral agent, endowed individually with different innate faculties and dispositions connected with internal organisation, it becomes in the manner in which they view the subject a legitimate subject of physiological inquiry, how far education may improve good, and counteract evil qualities? It is the result of their investigations on this head which leads them to determine what should be the exact objects of legislative enactments for the prevention of crimes; and to what extent they should be carried in the punishment of those, who from original conformation, or a perversion of these qualities, cannot be considered as responsible agents. This however is not a place for us to discuss points so metaphysical, and we shall confine ourselves chiefly to the physiological inquiries of our authors.

*In considering the brain as the seat of the soul, as that condition of matter which is more immediately and manifestly connected with the qualities of the mind, our authors only

fall in with the most commonly received notions on the subject. Nor are they the first who have looked to external features and characters of the head as designating the greater or less perfection of the mental qualities. But they are original in assigning to each mental quality a distinct material organ in the brain, on the developement of which the perfection of the quality necessarily depends. It is to the demonstration of this point that all their labours are directed. In order to establish their opinions, they have consequently first to resolve the questions—does man bring with him into the world certain determined dispositions and faculties, or does he acquire them by intercourse with things around him? and how far are corporeal organs superfluous, or indispensable for the developement of these mental properties? Their answer is summed up in the position, that the qualities of the mind are innate, and that the developement of these qualities depends on organisation, as the seed contains the germ of the plant, but upon the condition of the soil depends its vegetation and perfection. It is this principle which forms the basis of all their doctrines on the functions of the brain; and their endeavour is to establish its truth by facts which will stand the tests of examination and experience, before they proceed to the demonstration of the special organs of the different mental qualities.

There can be no occasion to follow the authors in their illustration of the first part of their position, that man is born endowed with certain determined dispositions and propensities, forming the inherent and distinctive attributes of his mind. The fact is as evident as that other animals are born with certain instincts, and certain predominating qualities. If man possesses faculties which essentially distinguish him from the rest of the creation, "he possesses also," say our authors, "in his brain, parts which other animals have not. It is agreed that in animals the qualities are more perfect in proportion as their brain is composed of more parts, and as these are more developed; and why should man form an exception to a general law? His sublime faculties are not the work of his own invention, nor are they derived from the external world; they are the gift of the Deity, who gives also the organs proper for the exercise of them."

In speaking of innate dispositions, and innate moral and intellectual faculties, they are careful not to confound them with ideas acquired by the intermediate action of the external senses. The latter originating from external objects, are accidental. It is the affections, and passions, and such facul-

ties as those of comparing sensations and ideas, of forming judgments, and drawing consequences from causes, and not the particular acts of these faculties upon external objects, which they consider as innate, and the nature of which it is more peculiarly their object to investigate in the present inquiry. On the other hand, in saying that the exercise of any intellectual faculties depends on conditions of matter, they do not mean to say that these faculties are produced by any particular organisation, but that special material conditions are necessary for their development. They wish not only to prove that there is an essential and intimate relation between the exercise of the properties of the mind, and the organisation of the brain, but that there are distinct organs in the latter, the *nidi*, if we may so express it, of different fundamental qualities. This is a part of their doctrine which has been much misrepresented; and which has in consequence given rise to the imputation of their being materialists. The mistake is that of confounding the faculty, and the instrument by means of which it acts, the material condition which is necessary to the exercise of a quality and its efficient cause. What the authors maintain is, that qualities cannot be manifested without suitable and corresponding organs, and not that the organisation is the cause of the quality. Thus the eye is the organ of vision, without which vision could not take place, but it is not the faculty itself. And they argue that different portions of the brain are the material organs of different intellectual or moral qualities, as they are of different senses, without which these qualities could not be manifested. We cannot see any thing of materialism in this. Yet many are startled at such propositions, as making the operations of mind too far dependent on conditions of matter, although they are constantly in the habit of regarding the brain generally as the material organ of the mind, and looking for some deranged action, diseased structure, or deficiency of the former, to account for derangement, perversion, or weakness of the qualities of the latter. Surely it is indifferent whether we admit the whole body or the brain to be the instrument of mind, or whether we allow of a plurality of distinct instruments in the latter. Whichever opinion we adopt, we are in one sense equally materialists, we admit the existence of material organs for the existence of mental qualities, as well as for the functions of the senses. Nor is the admission of a plurality of organs, as instruments of the soul, at all more repugnant to our notion of its unity than the common distinction we make in its faculties, cannot.

affections, or passions. In the whole of the investigation, the authors do not commit themselves by any hypothesis on a subject on which we are, and are likely to continue profoundly ignorant, the nature of the union of body and mind. Nor do they think of inquiring into the essence of any fundamental qualities. Their attention is directed only to observe the phenomena of mind, and to discover the instruments employed in the exercise of its various properties; on the ground that mental qualities cannot be manifested but by the intervention of peculiar conditions of matter.

They have also been considered as fatalists, and as denying the free agency or moral liberty of man, because they endeavour to prove that the action of these qualities depends on the condition of their respective organs in the brain. The development of the organ does not only insure the possibility of the existence of its faculty, but may influence it. It does not however follow that the actions of man, or the acts of the mind in relation to his corporeal actions, are irresistible, and of necessity. Our sensations, inclinations, desires, as well as our ideas, and our judgment, are subject to certain laws, and the authors would connect these laws with organisation. Absolute liberty is incompatible with the nature of man. And we acknowledge that it does not exist, when we speak of man's possessing a natural disposition, a bent, an inclination, or a passion for this or that, as well as faculties which act on these dispositions with more or less energy and effect, according to their natural strength; or the cultivation of their powers; and according as external circumstances or motives may have influenced them. The authors in assigning to these passions and faculties material organs as instruments are only embodying as it were, qualities which we all believe to be given to us by providence, and not of our own will. In supposing that the state of the organ may influence the exercise of the quality, they are only reducing to one point of action, some of the numerous material causes which we know do affect these qualities, independently of the will; and we no more deny the free agency of man in saying that the condition of the organ determines the exercise of its quality, than in saying that other material causes have such a power.

In proof of the second part of their position, that the development and action of the mental properties depends on, and is determined by organisation, they first compare the state of the brain in its different changes from infancy to old age, with the varying and different powers of the mind during these

periods. In the infant newly born the structure of its component parts is by no means defined, and it is not till after some months that the anterior and superior parts of the brain become developed with any energy. In proportion as it increases in size, and becomes more perfect in form and structure, are the different dispositions and talents manifested. It is at the time that its structure remains in perfection that all the qualities of the man are shown with their greatest power. As these fail with more or less rapidity, so does the organ also. These phenomena they regard as facts proving, that the moral and intellectual faculties show themselves, increase, and diminish in proportion as their respective organs become developed, strengthened, or weakened.

"Whenever the developement of the organs of the different qualities does not proceed in the ordinary gradual manner, the manifestation of the functions of these organs does not follow the usual order." To this head they refer the many examples of precocity of faculties and dispositions, in many cases evidently connected with an unnatural, or even diseased developement of parts of the brain, as well as the more numerous instances of backwardness in the exhibition of talent. Many children of dull capacities, and no mark of genius, of whom nothing brilliant was ever expected, have afterwards turned out to be individuals of striking talents. This change they consider as simultaneous with a newly formed vigour in the developement of their proper organs, which is frequently to be observed from the age of about ten to fourteen.

"If the developement, or the perfecting of the organs of the mind has not been completed, the manifestation of their respective faculties remains equally imperfect." The degree of developement of the brain necessary for the complete exercise of the mental faculties can hardly be determined, but it is an established fact, that if the brain be far below its natural size, it is attended with idiotism in a proportionate degree. The nearer the organisation approaches a more perfect state, or as our authors would say, the more are any organs developed, or perfected, the more manifest are the corresponding qualities. Individuals in this situation often exhibit some faculties and dispositions in a very regular manner, whilst they are exceedingly deficient in others. In like manner the head is perfect in form in some parts, whilst it is much mutilated in others. The voluminous front so remarkable in the ancient statues of Jupiter has been often mentioned. And it is a proof that this striking feature has been generally regarded as

a mark of intelligence. The heads of their gladiators are on the other hand remarkably small. The head of the famous Venus is most unnaturally diminutive; and Call's gallantry is shocked, that in endeavouring to produce a model of female beauty, the artist should have formed a head which could belong only to an idiot. The sculptor however perhaps thought that the goddess of love did not require the organs of moral or intellectual faculties. Without however looking to these embodied representations of commonly received opinions, we have only to look to nature itself, to be convinced that there is a great contrast between the mutilated, or deformed head of an idiot, and the capacious, or well marked head of persons of great talents. Here however we refer to form as well as to capacity. Size alone is not the scale of perfection in any organ. And to comfort those who have small heads, and yet think themselves as wise as their larger-headed neighbours, we should add that the authors regard the quality as well as the quantity of an organ, and allow that its activity is not always in proportion to its bulk. We suppose that persons of weak intellect who have heads of proper dimensions, have what is vulgarly termed, soft brains.

The authors hope to prove also, when they come to treat of the influence of the development of the organs in the exercise of their corresponding faculties, not only that whenever the organs have acquired a high degree of perfection, they acquire also at least the possibility of manifesting their functions with equal energy; and that the happy combination of talents which makes what is denominated a great man is never found without a corresponding organisation; but that whenever individuals are distinguished in a remarkable manner for any determined faculty or disposition, there is always a corresponding extraordinary development of organ. It may be considered as one proof of the existence of special organs for different qualities; that a single organ, and a single talent may be developed, and perfected, without necessarily affecting the rest. It does not follow that because the organ exists in perfection, the faculty must be called into action. The activity of the latter often depends on fortuitous circumstances. Thus great events produce great men not because the circumstances create intellectual powers, but because they afford free scope for their being exercised. The authors would say that in such men, the organs were complete, and in readiness for their manifestation; and that the promptitude and vigour with which they are displayed are proofs that nothing but some

impulse was wanting to put them in full action. They explain also by a difference of organisation, in the brains of the two sexes, the differences of some of their mental qualities. They remark many points of dissimilarity in the general form of the head; and observe that when we find an exception to this natural variety of form, we generally find also some exception to the general character of the sex. If certain organs are smaller in one sex, their corresponding functions also are weaker; if other organs are larger, their functions also are more striking. Without entering into the question of how far this difference is dependent on a varied organisation, we certainly think that it is not education but nature which has assigned to each sex its particular sphere of moral and intellectual activity. The opinion that "there is no difference which may not be accounted for by the difference of circumstances without referring to any conjectural difference of original conformation of mind; and that as long as boys and girls run about in the dirt, and trundle hoops together, they are both precisely alike," appears to us to be contradicted by every day's experience. "If you catch up one half of these creatures, and train them to a particular set of actions and opinions, and the other half to a perfectly opposite set, of course their understandings will differ, as one or the other sort of occupations has called this or that talent into action." This is disposing of the question very easily as well as flippanantly, but the conclusion is founded on a very superficial observance of character, and is contrary to fact.

Among their proofs that mental qualities are connected with organisation, the authors notice that when a similarity of physical constitution is transmitted from parents to children, the last participate in the same proportion in their moral and intellectual qualities. They remark also that in general a similarity of organs is accompanied with a corresponding one in their faculties. It is to this cause that they ascribe that resemblance of particular talents and dispositions in some families, which often descends from one generation to another. It is to the same law that they refer also the similarity of character in certain races, or nations, who have long been remarked for a resemblance in the general form of the head. The varieties of national characters are a consequence also in this view of the subject of difference in organisation.

As a proof that the operations of the mind cannot be carried on independently of material organs, they adduce the necessity of sleep for the purpose of recruiting and invigorating the

latter, in order that the operations of the mind may be renewed with fresh energy. It is the material organ alone which becomes fatigued, exhausted, and has need of repose. It is this repose, and the consequent inactivity and suspension of the sensations and intellectual faculties which constitutes sleep. "If during this state any of the cerebral organs from any cause are put into action, whilst others are suspended, the consequences are partial ideas, and sensations, forming dreams. The nature of these dreams is almost always connected with, and the result of some material causes."

"Whatever sensibly changes, weakens, or irritates the system, and particularly the nervous system, produces also considerable alteration in the exercise of the intellectual faculties." It is by this principle that they account for the weakness of the intellect at certain periods of life, while the development of different organs is going on with extreme rapidity. The consequence of a premature formation, and consequent action in the organs of the brain, as often a great failure of talent in maturer age in those individuals who in childhood gave promise of abilities. In the same manner they account for that influence on the mental powers produced by the seasons, climate, food, and other numerous causes affecting our body. Many of these effect astonishing changes on the exercise of our moral and intellectual faculties, though we can only suppose them to act immediately on our organisation, or material system. In illustration of the same principle they adduce also some very remarkable instances of a development of particular faculties consequent to injuries of the head. After enumerating many examples of similar changes arising from material causes, they come to their deduction, that the principle of all our dispositions is inherent in our nature, and the force with which they are manifested has its source in our organisation.

These may be considered as some of the positive proofs of the truth of their position, which they intend to illustrate, and promise to demonstrate when they come to treat of the special organs of the different qualities. They enter next on what may be called negative proofs of the truth of their principles, a refutation of some of the notions still entertained on the origin of the mental properties. Our plan however will not allow us to follow them far in this part of their metaphysical inquiries. Nor in truth does it appear to us necessary, to pursue the subject so far as they have done, in overturning hypotheses which a more rational philosophy has wholly super-

seded. The doctrine which limited all the sources of our knowledge to sensation and consciousness is now generally allowed to be insufficient to account for the phenomena of mind. It is admitted that all the intellectual powers contribute to the formation of ideas.

As more connected with our present subject we may observe that the authors do not believe in the all-creative powers of education; nor do they think that human beings are born alike, with their minds blanks, *tabulæ rasæ*, to be filled alone by the impressions of external objects. They suppose man like other animals to be born with certain determined inherent faculties and dispositions, varying in every instance, but still retaining the essential characters of his being. No art, or education can effect a complete resemblance between the mental qualities of different individuals. We may attemper, or exact the passions, but we cannot create, nor can we annihilate them. We may improve, but we cannot give memory or genius. Education

“ Is but the guinea stamp,
The man's the goud for a' that.”

As an evidence that man is the creature of education and of external impressions, philosophers have frequently brought forward the instances of those unfortunate individuals who have been found in forests, naked alike in mind and body, and who have been supposed not to have had any previous intercourse with their fellow creatures. These they have held out as patterns of what man would be without the benefit of education and experience. The authors here prove, what most reasonable persons would never have doubted, that these miserable creatures are always found to be deficient in organization, idiots by nature, whom no art could have rendered intelligent. It is probable that some were exposed by families to whom they were a burthen. Others it is known have fled to retirement from choice.

The authors however are far from denying the power of instruction, of example, and of circumstances on our faculties. They rate education highly, and observe that its effects in improving or correcting mental qualities are seen very conspicuously in those individuals who have not by nature any very decided talent, or disposition, in by far the greatest portion therefore of mankind. But we must be convinced that we have within us some things which we cannot refer to education, and which constitute character. There is an indivi-

duality, a difference of mental as well as of bodily qualities which education may influence, but cannot give; which is original, not factitious, a boon, not an acquirement. It is this innate and inherent distinction in the qualities of the mind which the authors say is essentially connected with organisation. It is for the manifestation of these qualities that they have assigned appropriate organs as instruments, forming integrant parts of the brain, as the qualities themselves form in combination but one mind. They give to attention and exercise the power of doing much, but not all. It is the same with the exercise of the faculties of the mind, as with that of the organs in general, exercise gives a promptitude, a quickness of action. But, it is precisely because exercise gives facility of action to the qualities of the mind that we must conclude that the developement of moral and intellectual faculties depends on organisation; exercise influencing only material agents.

They conclude their arguments with enumerating the several points which the opposers of their doctrine must prove to be true, and the facts which they must explain, before they can overturn the principles on which their own doctrine is founded. We have selected a few of these for the benefit of such of our readers as are disposed to give a useful and invigorating exercise to the organs of some of their mental faculties in the examination. We have no room; nor do we feel much inclined at present for the task, owing perhaps to a defect in the developement, or to a want of exercise in our organs of metaphysical research. Or it may be that at this instant they are too strongly influenced by some external cause, or motive, which makes them less disposed for the exertion.

“It must be proved that man with regard to animal life has nothing in common with other animals; and that the instincts, the sensations, and the internal affections of animals and of man, are not innate; but on the contrary that both have acquired them by themselves, or by education.

“That the mode in which the faculties manifest themselves has no relation to the state of the organs, and consequently to the difference of age, times, or seasons.

“That if the developement of the organs is interrupted, or if they are originally defective, the faculties are not affected.

“That mental qualities are never transmitted from parents to children.

“That causes acting on our organisation have no influence on the exercise of the mental qualities.”

"That the organisation of the brain in animals and man, and the difference of this part in different animals, has no object."

"That idiots acquire by education and external impressions the same qualities as are possessed by reasonable men: and that in persons of weak intellect these qualities can be strengthened or weakened at will."

"It must be explained also, how any cause but organisation can account for the fact of certain properties being manifested from infancy with great force, whilst other properties remain in a state of weakness."

"How it is possible that decided qualities should exist, and make their way in spite of the greatest obstacles."

"How the manifestation of the faculties becomes more ready by exercise, if they were purely spiritual."

"They would be obliged to prove that trifling circumstances, that food, external wants, attention, desire and aversion, pleasure and pain, and social life, are the sources of all the dispositions, and all the faculties of the soul, and that there exists no internal source of our sensations, and ideas, &c."

In the next section the authors enter at length into a defence of their doctrine against those who consider it as dangerous to religion and morals. We have already noticed this subject, and being perfectly satisfied as to its innocence, though there is no system in metaphysics of which parts may not be wrested to evil purposes, we should have passed on, but that we thought it right to notice their anxious desire to show that their opinions do not necessarily lead to absurdities, to materialism, atheism, or to a denial of the moral liberty of man. It certainly appeared to us to be a waste of labour to prove by long arguments what we thought no one in the present day would deny; and to be collecting hosts of authorities to show that ancient moralists, and Christian teachers have held similar opinions. It seems however that the nature of the opposition which the authors met with was such as to render such defences necessary; a fact which leads us to entertain no very high opinion of the talents, or the tempers of their opponents.

After proving the purity of their doctrines in these long though not uninteresting discussions, on materialism, fatalism, and liberty and necessity, they proceed in their last section to the application of their principles to man, considered as an object of education, of correction, and punishment. As this part of their subject also is rather out of our province, we shall not follow it further than may be necessary for the illustration of some of their peculiar opinions.

They have not yet specified the fundamental qualities of the

mind, nor demonstrated the particular organs of these qualities. In the application however which they here make of the principles we have been noticing, these must be taken for granted, or their reasoning will have no basis. The avowed object of introducing the present discussion which they allow to be premature, is to dissipate the prejudices, and fears which are still entertained by some as to the application of their doctrine, and thereby to induce them to follow it through the detail to be hereafter given. If these be their motives we must respect them; but we are so constantly meeting this spirit of fearful caution at every turn, that we almost suspect that it must be something more than a mere regard for opinions, that it must be some dread of higher powers which makes them so circumspect and guarded, so anxious to prove that their doctrine leads to no conclusions dangerous to the state.

It being admitted that man receives his sensations and ideas from different sources, from his inherent moral, and intellectual faculties, and from his external senses, the authors consider him in the double view of a being existing within himself, and as a being surrounded by the external world, and destined to social life.

“As a being acting from himself, we consider him again, according to the gradual advance of his organisation, as an animal and as a man. As an animal, he has to a certain degree a structure in common with brutes, and participates in their desires, inclinations and faculties. He is like animals the slave of his senses, and has not an absolutely free use of several of his innate faculties. But, as a man, he is provided with organs, and gifted with superior faculties, which realise in him the character of humanity, and which render him a moral being. In a state of regular health, man never appears merely as a man, or merely as an animal; the different consequences which result from his mixed organisation must be taken into consideration. Then only shall we form a clear idea of the degree of his moral liberty, and calculate on the use which he will probably make of it.

“The relations of this mixed organisation may be considered under the following heads.

“1st, Sometimes the organs of the highest order of the human faculties are completely developed, whilst the organs of the animal properties have but a middle degree of development and activity.

“2d, Or the converse of this is the case, the organs of the animal qualities, &c. &c.

“3d, Or the organs of the animal and human qualities have both acquired a considerable degree of development and activity.

“4th, Or some particular organs of either class manifest them-

selves with an extraordinary degree of perfection and activity, whilst the others are but of the usual standard.

“ 5th, Or, lastly, both classes of organs are alike moderately developed; and in this mediocrity there exists an infinity of shades and varieties.”

When the properties of the superior order prevail over the mere animal qualities, the latter are considered as influencing the actions of man only as the higher order of properties maintain them in activity, and give them direction. In the opposite case, where the animal organs and faculties are exceedingly developed and active, man is proportionally more the slave of brutal and sensual appetites. Where the animal and human organs and properties are alike active, the man may become conspicuously great in good or evil according as either class of qualities are allowed to predominate or are called into action. In the case of development or activity of particular properties only, whether animal or human, the result is a character or genius extraordinary in some peculiar line, but in other respects not above, often below the common level. In the last class they include the generality of mankind, neither rising above, nor sinking below mediocrity in their animal or human properties. These five divisions are subject to numberless modifications, exhibiting some dissimilarity in every human being.

Such is the view which our authors take of human nature; and such are the leading varieties in the mental constitution. It is the object of education to discover and call forth its powers to improve its good, and correct its evil tendencies. The two latter objects form also the legitimate end of all institutions for the civil government of man. To effect their purposes they should be founded on an intimate knowledge of the human mind, the means by which its qualities are manifested, and the causes which in any way influence them. The authors have entered at some length into this subject, reasoning on those principles of moral liberty they have all along supported. And in the practical application of their doctrines to the improvement of legislation, they have contrived to throw an unusual degree of interest over an abstruse, but highly interesting inquiry.

As immediately connected also with this part of their subject, they enter into the consideration of mental derangements of different kinds and degrees, with a view to determining how far man should be regarded as a responsible agent under any of these states. Idiots, and insane persons often proceed with

a marked intention, and with very accurate calculations in the commission of immoral actions, and yet we should be very wrong in punishing them as beings of sound minds. In people attacked with partial, or periodical insanity it is often exceedingly difficult to determine the moral character of such actions, some qualities being deranged, whilst others act with regularity. Some of the most horrible acts perhaps on record have been committed under these circumstances, and must certainly be considered as resulting from disease, and not as voluntary crimes. To illustrate the subject the authors have introduced some histories of criminal acts committed under a great variety of external and internal circumstances variously influencing different mental affections and passions, and making certainly a very considerable difference in the degree of culpability attaching to the action.

From this brief account of the contents of this volume, our readers may be enabled to form some judgment as to its general merits. We are aware that we have been guilty of some repetitions from a wish to impress on them the distinguishing principles of our authors' doctrines. And we should be happy if in so doing we should lead any to the study of a subject, in the illustration of which, the physiologist, the physician and the metaphysician are alike interested. The authors have given us but a sketch of the subject from which their picture is to be finished. Supposing this to be drawn with as much correctness as it is with spirit, the labour of filling up will yet, we fear, be found to be the most difficult task, and one in which they will be most liable grossly to err. We have seen enough to excite in us a strong interest with regard to whatever is to come from such hands, and a disposition to credit their assertions. Yet we cannot conceal our apprehensions that in giving to certain fundamental mental properties which they think they have discovered, certain special organs in the brain, they may possibly be found to be in truth only giving to "airy nothing, a local habitation, and a name."

ART. II. *A Dissertation on the Foot of the Horse, and Shoeing. Part Second.* By Braay Clark, Veterinary Surgeon, F.L.S. 4to. pp. 147. London, 1812.

AFTER the description of the hoof given in the former part of this dissertation, Mr. Clark* compares it to "an elastic arch, with an elastic key-stone communicating in some cases, and admitting in all, the springing movements which might be supposed to take place in such kind of arch." He now explains its movements by means of a comparison which may perhaps be thought more illustrative.

"This elastic movement and dilatation of the hoof will admit of being not inaptly exhibited by comparison with the ordinary movements of a bow for shooting arrows; having under the weight of the animal an evident motion of this kind. Bows also are brought, we believe, from eastern parts of the world, which are occasionally seen in the museums of the curious, and whose ends or extremities are inflected or turned inwards towards the centre of the bow, and afford a further illustration of the structure of the wall of the horse's hoof. It is clear also that if a bow be firmly confined at one or more points along its extremities, it will lose the power of motion, and will become more perfectly fixed, as these points are placed at a greater distance from the centre; the nails passing through an inflexible iron ring into the hoof, in a similar manner, will make the hoof a fixed machine, attended with varying degrees of restraint, depending on the size and form of the shot, the direction which the nails have taken in their passage, as also their number and size: which being left to the judgment and direction of the workman, or rather, to his simple apprehension, unaware as he is of the structure and properties of the organ he is fettering, will be liable to much uncertainty and abuse."

In the former part of his dissertation our author objected to the common practice of exposing the hoof to considerable pressure; in this, another practice not sanctioned we believe by the same high authority, but much more injurious in its consequences, is animadverted upon at some length. It is what the smiths call "throwing open the heels." Nothing can be more delusive than this expression, for although it cannot be denied that temporary relief is often obtained by the measure, it is evident on inspection that the heels are not wider after the operation than before, nor is there any proba-

bility of their ever being so, but a fallacious appearance of width is communicated, by the divided parts appearing at a greater distance. The subject is of sufficient importance to warrant the following quotation.

“ We may observe that the horse's hoof, at its inflexure or posterior extremity, is projecting to a sharp solid edge or angle of horn, bending inwards towards the frog, and in the collapsed or contracted state of the foot this part is resting against the side of the base of the frog, compressing and almost cutting it; this angle of sharp horn is removed by a slice of the buttress, and by a second cut a piece is also removed from the base of the frog, leaving a deep wide notch in these parts, and it is usual to see a deep incision made into the thick bulbous horny envelopement which the frog sends over the hoof at this part, forming the *arch of the commissure*: after this, the horn forming the sides and bottom of the reverted arch of the frog is also unmercifully sliced away, as we have shewn in treating of this part (on grounds not before considered) without just reason; for we apprehend in these cases of shod feet, that the hard horn can be better spared from the inside of the bar, as it is the encroaching part, and which from its strength, being united to the sole, can better admit of it; or a small portion perhaps from them both may be better, so as not to weaken either in too great a degree.—The sole is then very much thinned with the drawing knife, and the effect of all this cutting is, that the foot is not actually wider than it was before, or likely by these measures to become so, but a temporary release is obtained from the pressure of the encroaching horn, and a degree of elasticity which is natural to the part is once more communicated to the foot.—If the shoe is now applied and adroitly fitted and nailed, a great relief will be experienced, and abundant applause may attend it.

“ It is however a temporary resource, and will in its consequences with most feet at least be ultimately ruinous, for it is obvious that this proceeding does not at all extend to the cause of the evil, without which no permanent advantage can be expected; the horn robbed of its hard exterior coat, and the interior more succulent one exposed, quickly dries, and in drying contracts and pinches, or compresses the parts beneath, or perhaps it cracks, as is too frequently the case, in particular between the inflexure of the hoof and the frog, separating from each other these parts united by nature, and admitting air, wet, and dirt through the opening to the quick, which from this exposure swells and cankers, and pain and tenderness ensue, rendering necessary the policy before stated of working the horse up; or the frog stayed to the very quick shall become ulcerated, or the frog stay weakened shall induce a thrush, and render the frog unfit for its offices; until the animal, no longer capable of being made to work, even by the severest abuse, is led to

the slaughter-house, which by removing the object, is ever ready to cancel all error."

Another method is often resorted to for the purpose of relieving feet which have suffered from the shoes: *viz.* taking off the shoes and turning the horse to grass. It is supposed that the feet of horses may be relieved in this manner from all the inconvenience resulting from the shoes, as easily as our own when we remove at night a pair of tight shoes which have occasioned us great uneasiness during the day. The fallacy of this reasoning however seems obvious, for the horse's foot does not in any respect resemble the human, and the shoe, being an inflexible bar of iron kept constantly, nailed to the foot, bears no similitude to our leathern shoes. But Mr. Clark himself was once imposed upon by it to his cost, having actually purchased several horses, with a view to restore their feet in this manner. A detail of his experiments will be found in the work. In some of them the feet did not only not improve, but actually became worse while the animals were at grass, and entirely free from the restraint of the shoes. He justly concludes therefore from a series of expensive experiments that "after the foot has been exposed a certain time to the operation of the iron, it becomes so much changed from its natural state, that it is safer and more advisable for it to remain in the diminished and fixed condition to which it is reduced, than by any measures, especially severe or coercive ones, to attempt its restoration; as any sudden or violent change appears to disturb the foot and bring on morbid affections, rather than the healthy condition of the part; so that a continuance of it in this state appears the lesser evil."

The author likewise combats the opinion which ascribes a great part of the injury to standing in the stable. He does not assert that the stable is in no respect inimical to the feet; but we think he proves, that it is not sufficient to produce the contraction apprehended. He admits that feet may contract in the stable when the shoes have been removed, but then the disposition to contraction had originated in shoeing, and proceeded afterwards without the operation of the original cause.

There is one point upon which we are strongly inclined to differ from the author. He thinks that the low, heeled shoe has been abandoned on account of tenderness observed in the feet of such horses as had been much exercised in it, and this he ascribes to the unequal bearing and pressure on the posterior parts of the foot, which such a shoe, he says, would inevitably occasion, and also from the strain and distension which the

back sinews would suffer from the same cause. So far we agree with him, but not so when he adds, that "to be indulgent the shoe ought rather to be raised than lowered, as is the case with our own shoes, the heels of which are always made thicker than any other part; and for the same obvious reason."

Linnaeus was forcibly struck with the quick and firm step of his Lapland guides, and attributed it to their wearing shoes without heels;* and if our memory serves us we think that Camper, in his dissertation on the shape of the shoe, decided the inexpediency of the elevation of the heel. The horse's shoes ought perhaps to be a little raised at the heels, in order to protect the frog from injury upon some of our artificial roads, but we cannot suppose that the movements of the animal are in any other respect rendered more easy by it.

We should not do the author justice were we to be silent respecting the plates which accompany this part of the dissertation. Three of them are illustrative of the anatomy and mechanism of the foot, and therefore ought to have appeared in the first part. One plate represents the further progress of that remarkable change of form which the feet undergo from shoeing, to which two plates are allotted in the first part. Another plate exhibits this change in a mare that had been shod only one year, and suffered during the whole of that time to remain at grass. A sixth plate contains a representation of the coffin bone, as it appeared in a horse four years old that died with his first shoes on. There is a notable difference between the shape and surface of this bone and one exhibited on the same plate belonging to a foot that had suffered from the shoe. For an original and elaborate description of the coffin bone we refer to the work.

Mr. Clark concludes the volume with "an Essay on the Knowledge of the Ancients respecting Shoeing." It is not only a learned performance, but entirely free from those blemishes of style which too often occur in other parts of the work. It has afforded us infinite gratification, and if there be any of our readers who have a taste for antiquarian researches; we earnestly recommend it to their perusal.

He has we think, clearly shewn that the practice of shoeing with iron was not known to the ancients; but his quotations abundantly prove how much they felt the inconvenience resulting from abrasions of the hoof; notwithstanding the

* *Lacnesis Lapponica.*

smooth causeways upon which their horses travelled, resembling in a great degree our city pavements, produced less friction than the rough and gravelly roads of this country. Various methods of repairing and preventing these injuries are to be found in the ancient veterinary writers. The very clear directions of Xenophon and Columella manifest their solicitude upon this head, although we doubt whether any considerable advantage could at present be derived from the practice recommended by these writers.

"In like manner, as food and exercise are sedulously to be administered to the horse, that his body should be strengthened, so the feet also require a careful attention; since these, from the wetness or smoothness of the stable shall be injured, even such as are the most perfectly formed. In order to prevent the moisture from lodging, they should have a descent; and that they should not be too smooth, stones should be imbedded by one another corresponding to the size of the hoofs, for in such stable those horses that stand therein will have their feet strengthened. Next also, he that has the care of the horse should be mindful to lead him forth when he is to stab him down, as it is best to remove him from the crib after the mid-day feed, that he may have a better relish for the evening feed.

"In order to render the yard or place outside stable the best possible, and that it might tend to spread or dilate the feet, (*κατεγυγναι*,) a sufficient number, as four or five waggon loads, of round stones, cut or docked round to the proper size, should be thrown down at random, and surrounded with a rim or border of iron, that they may not be scattered; for by setting his feet on these, the same purpose is answered as though he had exercise during a certain portion of every day on a paved way. It is proper when they be rubbed down and curried, (*μυετισσομενοι*,) that he should use his hoofs as when he is walking, and the frogs also of the feet, will be strengthened by the stones strewed about."*

"Diligens itaque dominus stabulum frequenter visitabit, et primum dabit operari, ut stratus pontilis emineat, ipsaque sit non ex mollibus lignis, sicut frequenter per imperitiam vel negligentiam evenit, sed roboris vivacis duritia et soliditate compactum; nam hoc genus ligni equorum ungulas ad saxorum instar obdurat."

Mr. Clark seems to infer from the descriptions of Homer and Virgil, and likewise from expressions in sacred writ, that the natural hoof of the horse was capable of a much greater

degree of hardness than we find it to possess at present. But it must not be forgotten that these writers were poets, and that the *quidlibet* *audendi* was their right! Horses with "brazen feet" or "hoofs like flint" are rather emanations of an *imperfect* perfection than natural existences. Brazen here conveyed no such meaning as brass shoes. It was the strongest and most durable substance known in those days, and of course became the epithet of strength, for which it is commonly employed even at this day.

That the ancients defended their horses feet by means of leathern coverings, (*ἐπιβάται, καὶ βάραι*) similar to those used by their soldiers and rustics, Mr. Clark thinks highly probable, their application to the feet of the horse being naturally suggested by the advantages which they afforded to the human foot. To the soles of them, plates of iron were occasionally attached, as appears from the following lines of Catullus:

"Et supinum animum in gravi derelinquere sono,
Ferream ut soleam tenaci in voragine mula." CAT. 17. 23.

Another defence for the foot formerly in use is the *solia sparteæ* or *spartum opus* of the Romans, which was used merely to cover the applications made to the foot, when it had been much abraded by travelling, but never employed to protect it from abrasion like those before mentioned.

The modern practice of shoring is supposed to have been introduced by some of the barbarous nations which overran the Roman empire. Professor Beckman, in his History of Discoveries and Inventions, remarks that the first clear intimation of the modern shoe is in the ninth century, in the reign of the Emperor Leo of Constantinople, as mentioned in the Tactica, or inventory of horse furniture of this king, *ἐπιβάται ἐπὶ τοῖς ποσὶ καρφίῶν αὐτῶν: capista, jura lunatica cum clavis eorum*, *capista*, jura lunatica cum clavis eorum, *capista* refers for fastening horses, with crescent figured irons (shoes) and their nails." It is generally believed that the art of shoeing as it is now practised was brought into this kingdom by William the Conqueror.

We are accustomed to hail every improvement in the arts as a mark of the extension of man's empire over nature, and there are few perhaps which have been oftener viewed in this light than the modern art of shoeing. Previous to its introduction, the feet were often abraded, and lameness speedily ensued, but this was mercy in comparison with the sufferings consequent upon shoeing, for not being necessary to restore the injured parts, the horse was seldom submitted to exertions be-

yond his strength. In preventing this abrasion man obtained an increase of power from the greater use which he was enabled to make of the animal. He likewise gave himself credit for humanity, being unable to detect the insidious effects of the shoe, and wholly unaware that his means of defence were so cruelly offensive, as not only to convert the great cartilages into bone, and alter the shape and structure of the coffin bone itself; but even to separate the elastic processes from their attachments to the hoof, which actually takes place when the animal is completely foundered. Besides, the animal condemned to lingering torments, but protected against immediate laceration, is often compelled to make greater exertions than his bodily powers are capable of without great suffering in this respect.

In concluding this article we should not feel satisfied if we omitted to transcribe the entire paragraph with which the volume terminates. The difficulty and obscurity of the subject, which Mr. Clark has undertaken to elucidate, is here set forth without ostentation, and a sufficient apology made at the same time for those faults of style, which we noticed in the former part of our critique. Some idea is also given of the author's future plans.

"We conclude for the present our remarks on the art of shoeing, the most obscure and difficult branch of the veterinary profession, as will be readily admitted by those who have heretofore investigated it. That which was obscure and difficult to be comprehended, it is hoped, will now be seen more distinctly, and be more easily understood. The studious veterinarian may obtain an insight into the nature of those cases which are continually presented to him, though deriving little advantage from his exertions; and whether any means may hereafter be devised for removing these evils, to have arrived at a knowledge of the consequences of the present system of managing the feet of horses must be admitted to be no inconsiderable advancement in the science. We have, however, a well founded confidence that relief from these evils is not unattainable. By an attention to the foot in the early period of life, much may be accomplished; and the end may be further promoted by measures we shall hereafter point out. If the language of this treatise should have appeared different from that which has been usually employed upon these subjects, the difference, we may observe, has originated more from necessity than choice: the language formerly used being obscure or inexpressive, or, what is worse, delusive, an alteration became indispensable. Some things before quite unobserved have been placed in a conspicuous point of view, whilst others which have before been placed too high in the estima-

tion, their importance have been brought lower; and much new matter, which industrious research has furnished, respecting the construction of the foot, has opened views not before perceived, and laid a new basis for the art, on which it may be elevated advantageously, and rise in importance with the public, as in real utility. An impenetrable barrier to the progress of this kind of knowledge has arisen from the obscurity which envelopes these affections of the feet; and it may serve as an apology for any want of clearness in the work, that it has been found difficult to explain things in their nature obscure, and to express them in suitable language. A republication of the work would afford some opportunities of advantageous alteration in this respect, as also in the arrangement of the matter. It may be also reasonably expected that as the real knowledge of this art advances, more lenient measures in the treatment of the animal will be adopted, and the violence and cruelty and ignorant conceits necessarily accompanying such a vitiated state of things will be removed: a humane and mild treatment will also, we believe, be ultimately found inseparably connected with the best interests of mankind in the use of the horse."

ART. III. *Traité Pratique des Hernies, ou Mémoires Anatomiques et Chirurgicaux sur ces Maladies; par Antoine Scarpa, Chirurgien Consultant de S. M. L'Empereur et Roi, &c. &c. Professeur de Clinique Chirurgicale à l'Université de Pavie. Traduite de l'Italien par M. Cagol, Docteur en Médecine de la Faculté de Paris. Avec des Planches. 8vo. pp. 472. Paris. Gabon, 1812.*

THE original, of which the translation is now before us, was published at Milan in five fasciculi of the size called Atlas folio, each fasciculus containing a distinct memoir, illustrated by most beautiful engravings. The translator has condensed the letter-press in an octavo volume, and introduced some facilities of reference; the plates he has reduced to a size proportioned to this form, and a comparison of them with the original enables us to attest the fidelity with which they are executed. Although they fall short of the luxuriant richness and flowing softness of the original, they are equally calculated to convey instruction. The subjects of the memoirs are as follow. 1st, On inguinal and scrotal hernia. 2d, On the complications of inguinal and scrotal hernia. 3d, On the scrotal hernia in man. 4th, On hernia with gangrene. 5th, On umbilical and ventral hernia.

It appears that the state of knowledge on the continent, on

the subject of which this work treats, was previously very defective, and especially in what related to the anatomy of hernia. Some pieces of operative surgery require only a tolerable acquaintance with sound structure, as amputations, aneurisms, &c.; but in hernia the anatomical changes in position and texture are so numerous and considerable, that no surgeon can be qualified to operate in this disease who is not versed in them. No disease was ever mistaken or mistreated as this was by the ancients, owing to their want of pathological information. But without going back so far, and indeed we are too much in the custom of palming our blunders upon the ancients, the amiable philosopher Zimmerman was castrated for a congenital hernia, that is, the operator knew nothing about congenital hernia, but was desirous to effect the radical cure, as it was then esteemed, of the complaint.

When Scarpa sat down to his work, he could get no precise information from the most distinguished authors to whom he had access, respecting the coverings of the sac in inguinal hernia, their number, and density in relation to age and volume of the hernia—some asserted that the spermatic cord was occasionally in front of the sac, others roundly denied it—and on the variations in the relative course of the epigastric artery to the neck of the sac, all were silent.

Perhaps about as much was known abroad at that time, as was known here before the publication of Mr. Cooper. The oblique course of the cord had been described by Albinus and Camper. This was a fundamental point in the anatomy of inguinal hernia. The insertion of the external oblique into the ligament of the os pubis, which was such another point in respect to the crural hernia, had been recently described by Gimbernat in his proposal for a new mode of operating.

We shall now present the reader with a further account of the contents of this volume, resting chiefly on those points which are peculiar and upon which the author has particularly dwelt.

1st Memoir.—The superficial aponeurosis covering the tendon of the external oblique is considered as a prolongation of the fascia lata, the canal of the spermatic cord is very fully and accurately described, and in particular the anatomical relations of the peritonæum to the abdominal muscles, and the quick dissection of this membrane to remove the adhesive inflammation.

Instead of a fascia transversalis Scarpa describes an external loose cellular coating to the peritonæum, and instead of a

foramen, such as the upper aperture, he speaks of a funnel-like depression in the peritoneum. He describes two of these hollows, at one of which the ordinary inguinal hernia descends, and the ventro-inguinal at the other. The former is the superior "enfoncement," large, triangular, corresponding to the spot occupied by the foetal testicle, beneath the inferior edge of the transversalis muscle. The latter is the inferior, small, on the inner side of the ligament of the bladder, and nearly corresponding to the point at which the spermatic cord crosses the epigastric artery.

The cause of this disease is very simply and rationally stated. The abdomen is represented as subjected to two opposite forces, which reciprocally balance each other: one, the pressure of the viscera against the muscles, the other, the reaction of the muscles upon the viscera. If these two forces were in equilibrio in all states and circumstances, we should have no such disease as hernia. If the equilibrium being destroyed, the abdominal walls yielded equally in all directions, there would only follow an augmentation of the bulk of the belly. But there are certain weak points in the walls, naturally feeble and less resisting; and of all, the most so is that part which extends from the spine to the pubis: thence the hernia. The depression before described is in form of a funnel, and the depth of the funnel is increased by drawing the cord from above downwards. It is this little pouch, this digital appendix, which by its progressive development becomes the veritable herniary sac. Lying in front of the cord under the lower border of the transversalis, it is gradually prolonged in the interval of the fleshy fibres of the internal oblique, and still accompanied by the cord through the cone-like canal from the flank to the pubis, it emerges by the orifice at its base, improperly called the inguinal ring. The cremaster coat, its boundary at the part where the spermatic vessels enter the testis, its thickening in old hernias and hydroceles, to which it bears likewise the relation of an envelope, the gradual change in the direction of the canal from oblique to perpendicular, are explained. Scarpa denies that the hernial sac becomes ordinarily thicker in old hernias, so as to present the appearance of a dense membrane, formed of many layers separable by dissection. He is assured from extensive observation that the sac does not become thicker or even vary from the proper peritoneal texture in the oldest and largest scrotal hernia. The change in density pertains to the aponeurotic and cremaster coat, and the cellular tissue immediately investing the

external surface of the peritoneum. After successively raising these by laminae, of which the number is indeterminate, we arrive at the real sac, thin, elastic, semitransparent, and in a word, peritoneum. A singular and instructive case is related of the wound of the spermatic artery in tapping a large, old hydrocele, owing to its separation from the cord and its passage over the face of the sac. The operator, M. Gasparoli of Pallanza, extirpated the testicle of which he had been unfortunately compelled to tie the artery, and the patient did well. To avoid this accident it is only necessary to make the puncture higher, at a sufficient distance from the bottom of the tumor, and in a line which would divide it longitudinally into two equal parts. The change in situation of the epigastric vessels leads to a description of that species which is on the pubal side of these vessels. The smaller and inferior peritoneal depression which formed the sac of this hernia, has been before mentioned. A comparison of the congenital and ordinary inguinal hernia, points to the important distinction of the aponeurotic and cremaster coats, being in the one continuous over, and in the other distinct from the tunica vaginalis testis. The double inguinal hernia is almost always in Scarpa's experience a combination of the ordinary and congenital species, as in the striking case related by Dr. Wilmer.

Upon the subject of the truss, the author enlarges to demonstrate in a scientific method the superior advantages of the bandage of Camper, or of that of which the spring embraces $\frac{1}{4}$ or $\frac{1}{2}$ of the circumference of the pelvis, instead of being semicircular. He cites, and satisfactorily answers the objections which have been brought against it, and contends that it combines in the greatest degree the properties of stability and elasticity. This demonstration is assisted by a figure similar to that of Camper, but somewhat simplified. He adds that the proper bearing for the pad of the truss is not the ring only, but that part of the neck of the sac which is covered by the aponeurosis of the external oblique, with other good practical instructions.

2nd Memoir.—The chief purport of this memoir is to put the student in possession of the complications and varieties which constitute the facts of practice. Among the directions for operating, the incision of the stricture is directed to be in a line parallel to the linea alba. It is a leading doctrine of the author that in the majority of cases the neck of the sac is the seat of stricture, a fact which he says has escaped observation, because morbid anatomy has been so sparingly cultivated,

and because both the tendon and neck of the sac being divided at the same time in the operation, it could not therefore be decided to which the stricture had belonged. He has found in examining ruptures both of the common and congenital kind, that the neck of the sac was on the point of producing the strangulation of the gut, while the ring was dilated and flaccid, which was never the case in old and voluminous hernia, where much fluid was contained in the sac, nor among those who had never worn a truss. But generally among men of middle age who had worn a truss irregularly, and whose rupture had never before attained a considerable magnitude, the sac at its superior part was found greatly contracted, thickened, and indisposed to yield to a distending force. Opposite to the ring it presented sometimes a tube-like contraction an inch long, and at other times a circular contraction upon which the fibres of the cremaster were indurated and condensed with cellular matter in a similar state. These parts thus degenerated gave such a degree of solidity to the neck of the sac as to make it difficult to dilate it with Le Blanc's instrument. It was much easier to dilate the inguinal ring. The tube-like contraction is more frequent in the congenital than in the ordinary hernia of the groin and scrotum. The signs of strangulation by the neck of the sac are, 1st, When the rupture has occurred in infancy or childhood, and descended at once into the scrotum instead of having previously formed a tumor in the groin. 2nd, When after being for a long time supported by a proper truss, it is thrown down by a sudden effort. 3rd, When the point of the finger can be carried round the neck of the tumor, and the border of the ring is not exactly and tensely applied to it. 4th, When the hernia is imperfectly reducible, a little painful eminence remaining above the ring, and upon coughing the hernia reassumes its former volume. When these circumstances are more or less combined, the stricture is at the neck of the sac, the taxis should be employed with caution, and if failing, the operation should be quickly resorted to. In the taxis, if the hernia is recent and small, and the parts about the groin lax, there is much danger of returning it strangulated into the belly; and in the operation with the knife, there is danger of incompletely dividing the long tube-like stricture, if the surgeon is not well aware of the nature of the case.

The varieties of strangulation, by twisting of the intestine about itself, by peculiarities of structure, or ruptures of the epiploon, by the appendix cæci, and by the rupture of the

herniary sac, are illustrated by cases. To be aware that such varieties exist, is the best instruction for the management of them.

Scarpa denies the existence of the spasmodic stricture, in common with the best practical authors who have written since Richter described it. He distinguishes the spasmodic affection of the intestine from the other species of colic, which he denominates the flatulent, the bilious, and the stercoral colic. The angle which the protruded gut forms with the portion above the ring, he considers to be the immediate or exciting cause of strangulation.

On the subject of adhesions between the sac and its contents the Professor is elaborate to a fault. We have the gelatinous, the filamentous, and the fleshy adhesion, which last is subdivided into the unnatural and the natural. The gelatinous means, as we conceive, adhesion by recent coagulable lymph; the filamentous, chronic membranous band or thread like adhesions; the unnatural fleshy is the close condensation and inseparable union of surfaces; the natural is that which exists in the abdomen originally, as the mesentery or the process of peritoneum forming the ligament of the colon presenting itself within a hernial sac intimately connected with it. These distinctions, though tediously minute, lead to no practical improvements. We are to separate the recent, and to cut the filamentous adhesions, and return the bowel; and that which is indivisible, as the fleshy, natural, and unnatural, is to be left unreduced, the dilatation being completely effected and ascertained.

This memoir contains many historical illustrations of the hernia of the cæcum and colon, complicated, as it generally is, with what the Professor has not very appropriately named, the natural species of adhesion. In the large irreducible scrotal hernia the division of the ring is advised to be exterior to the sac, and when the bowel is adhering and gangrenous, the author recommends the surgeon to confine the operation to a longitudinal incision of the gangrenous part, extending it to the neck of the sac and ring. The directions for the treatment of irreducible or useless omentum, are curious, and we think of questionable propriety. The immediate application of the ligature is thought objectionable. The piece of omentum is therefore to be surrounded with a roll of linen to prevent its contracting adhesions to the wound, and ten or twelve days after, when the inflammation has subsided, it is to be included in a ligature and destroyed by escharotics.

3rd Memoir.—Crural hernia is said to be formed in the membrane which lines the peritoneum externally, and accompanies the femoral vessels under the ligaments of Fallopius, following the inner or pubal side of the vessels. This is the proper tunic of the hernial sac, external to it is the thin, unequal, aponeurotic expansion of the fascia lata which covers the inguinal ring and the crural arch, and accompanies the cremaster to the scrotum, and over this the subcutaneous cellular tissue connecting the lymphatic glands. The two last are often rendered hard and adherent by the use of the truss. The proper fascia becomes much thickened as the hernia increases in size, and in full subjects charged with fat. The sac retains, as in the inguinal hernia, the true peritoneal texture. This rupture is said to commence in the inferior hollow of the peritoneum, but from the better support of that than of the superior, where the inguinal hernia and the cord emerge, it is determined under the crural arch. The difficulty of avoiding the spermatic artery is represented as almost insuperable, and it is boldly asserted that the ligament cannot be divided without a mortal hemorrhage. If the incision is oblique towards the pubis we cut the spermatic, if towards the flank, the epigastric and perhaps both: cutting directly upwards, the division of the spermatic is inevitable. The tegument is directed to be incised parallel to the ligament; and to extricate the operator from these pressing dangers, the Professor directs him to raise the ligament with the crotchet of Arnaud, and at the same time to make four or five little perpendicular cuts in the inferior border of the arch, not penetrating its entire breadth. This operation enfeebles the ligament, and permits of the reduction of the viscera. When the neck of the sac is the seat of the stricture the dilator of Le Blanc is to be used in preference, being a more powerful instrument. Cases in which it was impossible from close adhesion to introduce a dilator led Scarpa to strike out Gimbernat's operation, which he has now practised with perfect efficacy on several occasions, and says he should prefer it in all instances of strangulated crural hernia, if he were not afraid of the return of the hernia, after cutting away one of the principal insertions of the muscle. Where the adhesion of the sac to the whole circumference of the intestine absolutely precluded the introduction of a director between them, Arnaud opened the gut, and dilated it and the sac and the arch together; the matter passed off freely, and upon female patients the success of his operation was most complete. In similar circumstances in male subjects

Scarpa advises the same operation to be performed, only cutting inwards upon the pubis, instead of dividing the centre of the arch.

4th Memoir—Treats of hernia with gangrene and the means employed by Nature to restore the continuity of the canal. In the preliminary remarks of this memoir, blood-letting and the warm bath are extolled as the most efficacious of the means employed for reducing the vital powers in the acute strangulation, especially in young subjects. The taxis is much objected to, as it is so often used without discrimination, and consequently without success, and is presumed to be a frequent cause of gangrene. In the chronic or slowly strangulated voluminous hernia, cold applications to the part are recommended. The symptoms marking these contracted species of strangulation, and the signs of gangrene, are delineated with a masterly hand. The distinction between an incarcerated and a strangulated intestine, and the explanation of the phenomena characterising the latter state, deserve to be extracted for the perusal of the reader.

"In reflecting," says the author, "upon the phenomena accompanying the two species of strangulation above described, it is easy to perceive that the terms incarcerated and strangulated, do not signify precisely the same thing, although we employ them almost always indifferently. In fact, in the incarcerated hernia there is an interruption to the course of the fecal matter, without any considerable lesion of texture or loss of the vitality of the bowel. In the strangulated hernia, on the contrary, in addition to the interruption of the matter, there is an organic lesion of the coats of the intestine, with the loss of its vitality. Clinical observation upholds this distinction: the intestine which is only incarcerated resumes its functions as soon as it is replaced in the belly; that which is truly strangulated never returns to its natural state. In the case of strangulation, it is not the disorganization of the loop of intestine enclosed in the hernia, which principally contributes to the destruction of the patient; but the violent distension, the inflammation, and consequent gangrene of the superior part of the canal, of all that portion which extends from the hernia to the stomach. Upon opening the bellies of subjects who sink under it, we find, before the other viscera, some circumscriptions of the intestine enormously distended by gas and liquid sacces, to such extent that they appear to fill the whole cavity of the abdomen. Their surface is of a deep red colour, in some places black, and covered by coagulable lymph. They conceal all the other folds of the intestine, which are collapsed, and present but few traces of inflammation, except in the vicinity of the strangulated parts. The great peritoneal sac is com-

monly much less inflamed than the portion of intestine which extends from the hernia to the stomach. After these results obtained from the body, we may easily render account of the phenomena observed during the malady. The excessive distension of the upper part of the canal, determines to that part a considerable increase of its action, an effort of the preserving power of Nature, which always tends to repel the agents of destruction; the intestine reacts powerfully but uselessly upon the matters which distend and irritate it; thence the cruel pains which the patient suffers in the whole circumference of the belly, and especially about the navel, pains much less to be endured than those which are felt in the rupture. Lastly, an irritation so violent never fails to induce inflammation and gangrene, and these circumstances contribute more than the stricture to destroy the patient. If the rupture of the strangulated gut took place in the early days, before the upper portion of the canal had experienced much distension, I am persuaded that strangulation would not prove a cause of such mortal accidents. When the gut is only strangulated in a third of its circumference, and the passage of the matters is not totally intercepted, all the symptoms have much less intensity than in the former case, and if these terminate fatally it is only after a much longer duration. Nature does not cease to make the greatest efforts to disembarass the canal of the matters which distend and disturb it, and being unable to expel them by the natural channel, she forces them back into the stomach and expels them by the mouth, but they arrive there and are evacuated only in part, and the retrograde action of the canal continually increases the state of irritation, which is at length communicated to the whole nervous system.”*

The manner in which the two extremities of the intestine severed by gangrene communicate so as to recover the function of the canal is explained with great minuteness and an accuracy that proves the author's perfect acquaintance with this curious and beautiful process. He is aware that they never do or can unite directly or come into opposition to allow of it, and shews by many valuable examples how by their angular adhesion to the peritoneum forming the neck of the sac, a membranous channel of communication is formed betwixt them. On the side of the mesentery their union at an acute angle forms a salient eminence, and next the wound the peritoneum forms a funnel-like sac, so that matters describe a semicircular route in passing through it. The retardation or prevention of

* Let the reader compare this extract with what refers to the same subject in ‘An Inquiry into the Process of Nature in repairing Injuries of the Intestine.’

this process is owing to the parallelism of the two extremities of the gut, when a long piece of the entire cylinder was stretched. The retraction of the extremities of the intestine from the wound by which the neck of the sac is drawn upwards; and the pouch is formed, the failure of which process is said to be one cause of the incurable artificial hernias, is the only error of this description, and it is copied from Morant. Scarpa truly enough says that without the "imbuto membranoso" the continuity cannot be recovered. He outshines in adopting the hypothesis of retraction, by which the angle is rendered more obtuse, the matter of fact established by his observations being sufficient for the purpose. The situation of the extremities exterior to the peritoneum, in wounds where the bowels protrude and adhere to the lips of the exterior wound, compared with that of the same parts in gangrenous hernia, is sufficient to account for the difference of the result in favour of the latter. A peritoneal surface is indispensable to the cure of these lesions, whatever be their nature or origin. The same general conclusions which the most intelligent surgeons in this country have arrived at are established by the numerous and valuable observations of Professor Scarpa. He insists upon the inutility of the ligature of the mesentery, the necessity of a nourishing diet, in support of the efforts of Nature, of preventing by every precaution the too rapid closure of the wound, and of dilating the wound, if the symptoms of obstruction should recur.

Scarpa has seen in a periodical work some accounts of the experiments of Dr. Thomson and Dr. Smith, with sutures upon the divided intestines of dogs. He doubts, and very properly, if a similar treatment of an intestine disunited by gangrene in hernia, would afford a probability of success. "Such experiments," he adds, "even when they succeed best, only prove that operations may be performed with success upon animals which would generally be useless and destructive to man." He then considers the subject of the suture both in hernia with gangrene and in wounds of the large and small intestine, and in both equally condemns it as calculated to induce inflammation and its most mischievous consequences. We are recommended therefore to replace a wounded intestine in such a manner as that its aperture may correspond to the wound of the abdominal parietes, and we are encouraged by a case cited for the purpose, to expect, that even in the small intestine a wound may be healed without the employment of a suture after having for a length of time discharged

the allimentary matter. The opening is in this, as in the case of hernia, to be for a time maintained, and the same precautions to be used to prevent the wound from contracting, otherwise than in proportion to the quantity of the matter and the facility of their passage into the inferior part of the canal. The author does not seem to apprehend the ill effect upon the patient's system which we have so commonly observed to follow a continued preternatural evacuation of the small bowels. In a late number of our Review we gave some account of a work in which this important question has been investigated in its fullest extent. There is no one point of Scarpa's doctrine which has escaped anticipation in that work, and it may be remarked that his chief arguments strongly exemplify the justness of the author's conclusions.

So far is the Professor incorrect when he asserts that the success of experiments on brutes proves nothing auspicious of similar practices instituted upon the human subject, that although this vulgar error receives general credit, we see very few if any exceptions to the uniformity of the result obtained from experiment and observation. For every experiment upon the intestines of dogs we can bring parallel cases in surgery; the unintelligible phenomena exhibited by the latter the former has clearly developed, and if Scarpa had investigated the subject experimentally, he would have discovered a distinction in the circumstances of wounded and mortified intestine, pointing out a distinct method of treating them. He knows, because he has seen, how partially wounded intestines will often be repaired spontaneously, but he has yet to learn that the suture is necessary for those cases in which, from the extent of the wound, spontaneous union can never take place, or from its situation a preternatural excretory will quickly exhaust the powers of life. With every respect for the talents and diligence of this celebrated surgeon, we must take the liberty of saying that experimental inquiry is the scientific test of pathological observation, and though the exclusive pursuit of the latter may lead to improvements considerable both in number and value, it is the combination that confers the power of extending the boundaries of science. What would have been now the state of pathology, obscure as it still is, if Mr. Hunter had set down after his experiments, instead of reasoning from them, to urge this common-place evasion of Professor Scarpa. It would have discovered a larger and a finer mind, if instead of expressing this silly and unwarrantable prejudice, the Professor had either properly

acknowledged or fairly put to the question this most novel and interesting example of the beneficent wisdom of Nature.

5th Memoir.—Upon the umbilical hernia and that of the linea alba. The anatomy of these hernia is necessarily explained, the causes which give rise to either species, the manner in which the congenital is formed in the spongy tissue of the umbilical cord, with the vein above and the arteries below or one upon each of its sides, and supplied with an exterior true peritoneal sac. Merz and Ruysch described the congenital umbilical hernia as devoid of a peritoneal covering. The former regarded the double transparent envelope as a prolongation of the chorion and amnios, the latter considered the disease to be combined with malformation of the abdominal parietes, and the hernial tunic to be a thin membrane substituted for the muscles and skin of this region. The hernia of the linea alba, like other ventral hernia, has its sponenrotic and peritoneal tunics, the former being that fascial texture which overspreads the muscles of the abdomen. The symptoms of that which appears beside or below the xyphoid cartilage, are most annoying from the vicinity of the stomach. Garangeot and Hoin have considered it as a hernia of the stomach, but they have not confirmed the opinion by a single morbid examination, and it is as probable that the epiploon or even the arch of the colon may be engaged in it. A little fatty tumor sometimes forms upon the linea alba about the umbilicus, which is distinct from hernia, but has some strong features of resemblance to the epiplocele, and has even misled Scarpa among others to an operation. In this and similar instances the patient has been casually affected with constipation and colic. The ligature of the congenital hernia of the navel, so warmly advocated by Bichat after Desault, has fallen into disrepute and disuse upon the Continent. It appears from a note of M. Cayol, that a paper was read in May 1814 to the Medical Society of Lyons in favour of the ligature, when the leading members took part in the debate and brought cases to prove the superior efficacy of compression and M. Cartier declared that he had seen many of the infants operated by Desault, who were not cured of their ruptures and he argued that since the matrix does not always prevent the relapse of the inguinal or crural hernia, we are not entitled to expect a radical cure from the operation for the external ones. No voice was raised in favour of the practice proposed by the writer alluded to, which was in fact a revival of Desault's practice, and it was the unanimous opinion of the society that the liga-

ture of the umbilical hernia ought to be banished from practice as an operation both useless and dangerous. The object of the translator's note is to show that M. Girard, who upon this occasion wrote against the signature, and the other members of the medical societies of Lyons and Paris who followed in his train, had been anticipated by Professor Scarpa, whose work was published more than a year before, but of whose opinion these gentlemen had made no mention. The note does much ado about nothing, for it acknowledges that all good surgeons had long since admitted the insufficiency of the remedy, and we are sorry to observe that Scarpa had thought it worth his while to write a private letter to M. Cayol on the subject, to inform him that many copies of his work had reached Lyons before these papers were written. This is a trait of littleness which had better have been kept out of sight. It put us in mind of the chronological awkwardness of a great modern discoverer. There is nothing new to our readers in the description of the umbilical trusses, of the operations for these hernia when strangulated, nor we fear, in the information that *cæteris paribus*, the consequences of these hernia in a state of mortification are much more to be apprehended than those of the inguinal and crural species. Several instructive cases are quoted, and the memoir concludes with a singular case of varix of the mesentery, complicated with umbilical hernia, which proved fatal from spontaneous rupture and hæmorrhage.

To the translation of this work are added two Memoirs, read to the society of the Ecole de Médecine, upon the following subjects:

1. Upon a new species of hernia which may be called *extra-peritoneal*, by M. Larnec. 1837.

2. On a peculiar termination of gangrenous hernia, by M. Cayol. 1841.

The latter is a highly interesting narrative, containing a confirmation of the principles established by Mr. Travers's experiments upon the intestines of dogs. They warranted the inference that a strangulated hernia could undergo a natural cure, the disorganised portion of intestine passing off by the anus. A ligature upon the duodenum producing strangulation was discharged, in a few days, and the animal perfectly recovered; upon examination the cicatrix was visible, but the canal was perfect. A ligature upon a knuckle of the small intestine proved fatal, but not until the knuckle was detached and on the point of falling into the canal, when the continuity was re-established. Mr. Travers also minutely details a case

in which all the symptoms of gangrene were present, and the patient after a sudden, copious and fetid defecation rallied and most unexpectedly recovered. M. Cayol's case is similar, but has the additional value of affording demonstrative evidence in the human subject of the process by which the intestine of the dog was united. The comparison of the anatomical appearances, satisfactorily establishes this point. Strangulated hernia then, as well as intus-susception, may cure itself; and this is another proof that pathological observation keeps pace with experimental results. We sincerely wish that they may never be wanting to each other, while their combination can afford such new and valuable light to science. We shall not lengthen this article by detailing the particulars of M. Cayol's observation, but we cannot refrain from expressing our high estimation of his labours throughout the volume. We think the public are much indebted to him, especially the Parisian public, to whom this work affords greater novelty than to us. Although a very meritorious performance, the English reader will now and then feel a little *ennuyé* at being told over again so much of what he knew before. It is impossible however, that this feeling should be unmixed with the perusal of a practical work of this magnitude, and the present affords a stronger exception to the remark than the work on aneurism. Scarpa has established the highest reputation of all the continental surgeons. He unites education and literary research with acute observation and indefatigable industry. His zeal too for the improvement of his art appears to be steady and well tempered. His writings discover no affectation of superior powers, no trace of a disingenuous feeling; no parade about himself, no disparagement of others. As an anatomist he is eminently accurate without frivolous minuteness, and has the great excellence of examining his subjects in their relations to each other, and with an eye intently fixed upon their pathological bearing and importance. As a pathologist he is decidedly better acquainted with the doctrines of John Hunter than those of the French school, and is therefore before them; but he is still deficient in simplicity and clearness, and deals not a little in that sort of scholastic jargon, which is never used but in apology for impreciseness of ideas. The cure for this evil is experiment, and the confinement of the mind to demonstrations; and we think Scarpa's works would have been more highly appreciated and have better deserved to be, if he had combined with observation of disease illustrative experiment, and had studied the philosophy, as much as the practice of surgery.

This was the conspicuous merit of the most intelligent mind that ever bent itself to the profession. Hunter laboured to establish principles not only by reasoning upon all that was set before him, but by procuring for himself through the medium of experiments, those results which chance, in the course of practice, had not presented, and it was by this double method, this working and counterworking of the problems of nature, that he succeeded in unravelling more by his single hand, than have yielded to the united efforts of his posterity.

We should not have hinted at an imperfection in such a crowd of great qualities,—if we were not convinced that there is a greater danger of overrating than underrating the merits of distinguished foreigners, and had not observed that in the present and similar instances, a blind and somewhat adulatory homage was paid to mere clinical industry ;—if we were not decidedly of opinion that the works of Scarpa discover him to possess higher qualifications for a great practical writer, with this grand exception, than those of any surgeon of his age.

ART. IV. *Memoires de Chirurgie Militaire et Campagnes, de D. J. Larrey. Premier Chirurgien de la Garde et de l'Hôpital de la Garde de S. M. J. et R. Baron de l'Empire, Commandant de la Legion d'Honneur, &c. &c. 8vo. Tome 3. pp. 1893. Paris, 1812.*

IT is now nine years since M. Larrey published the first edition of his work entitled, “*Relation Historique et Chirurgicale de l'Expédition de l'Armée d'Orient en Egypte et en Syrie*,” of which a review appeared in our fifteenth number. That work, we are now informed, has long been out of print, and the author at the request of the surgeons of the French army, has been induced to republish it, with an account of the different campaigns in which he served before and since the expedition to Egypt.

We have already given our opinion of that part of the work which relates to the French expedition to Egypt; we shall therefore at present abstain from any comments on it, and confine ourselves to a critical analysis of the remainder of these volumes.

M. Larrey introduces himself to the reader, by an account of his education and outset in life. He began his career in the navy, and sailed to North America, in the year 1788, as surgeon to a French frigate. His narrative of the occurrences of this voyage and the observations connected with it, though not without interest, as they give some insight into the character of the author, do not appear to us sufficiently instructive in a professional point of view, to obtain a place in our analysis, designed to convey the really valuable part of the work.

In our review of the first edition, we spoke in terms of high commendation of the manner in which the surgeons in the French army, were disposed during an engagement, providing immediate assistance to the wounded on the field of battle. This system of forming the surgeons into small detachments posted as near as possible to the troops during the engagement, had, as we formerly mentioned, been suggested many years ago by Ranby, surgeon to George II. but had never been fully acted upon in our armies. M. Larrey spoke merely in general terms of this system of *ambulances* as he calls it and of its advantages. In the volumes before us, he enters much more into detail, and gives so interesting a statement of the manner in which this most excellent system is carried on, that we shall offer no apology for laying an account of it before the reader.

Before the establishment of ambulances in the French army, the wounded suffered greatly from the delay attending their removal from the field of battle, which left them so long without surgical aid. The wounded, we are informed by M. Larrey, remained on the field until the engagement terminated; they were then collected together in the most convenient situation, whither the surgeons repaired as soon as possible. But owing to their distance from the scene of action and to the obstacles attending their progress, it was not uncommon for the wounded to remain unassisted for twenty four and even for thirty six hours, so that great numbers died in consequence of this delay.

These evils attending the old system were greatly felt in the French army during the campaign on the Rhine in 1792. After one battle in particular, between the French commanded by General Houchard and the Prussians, the former remained masters of the field of battle, but owing to the length of time that was taken up before the surgeons could come up with the wounded, many of these received no surgical

assistance, and the French having been forced to retreat, in the night, they were under the necessity of leaving their wounded behind. This woful experience of the effect of keeping the surgeons at a distance, and of the insufficiency of the means provided for their removal, induced M. Larrey, then at the head of the surgical staff of the army of the Rhine, to introduce the system of *ambulances*, so as to be able to convey immediate assistance to the wounded along the different points of the line during an engagement, and at the same time to remove them to a place of safety. The ambulances, from the rapidity of motion of which they were capable, and from the resemblance of their carriages to those of the horse or flying artillery, were called *ambulances volantes*.

The system of ambulances, though first introduced into the army of the Rhine in 1792, was not complete until the year 1797, when M. Larrey was at the head of the surgical department of the army of Italy, under the command of the present emperor of the French. Each ambulance consisted of a certain number of surgeons and of an escort of soldiers to defend it, as well as to provide the assistance required by the surgeons in the care of the wounded, and to assist in removing them to the most convenient spot. The ambulance of the army of Italy, formed by surgeons distinct from those belonging to the regiments or to the staff of the army, consisted of three divisions: each division was commanded by a surgeon of the first class who had under him two surgeons and twelve assistant surgeons. The military escort, composed of both cavalry and infantry, was commanded by a lieutenant and second lieutenant, with a due proportion of non-commissioned officers. The complement of each division, including the medical and military officers, amounted to 113, and of the whole ambulance to 340, including the surgeon in chief at the head of the whole.

“The advantage,” M. Larrey observes, “of these ambulances is that they provide immediate surgical assistance to the wounded, and the means of speedily removing them from the field of battle to the nearest hospitals. The ambulances, besides, are enabled to follow the most rapid movements of the advanced guards, and subdivide themselves as much as may be required, each medical officer, being mounted, having it in his power to take along with him a carriage for the conveyance of wounded, and whatever may be required for their immediate relief.”

M. Larrey, as was before mentioned, was first employed during the revolution in the army of the Rhine; thence he was summoned to the army of Italy under Bonaparte. On the termination of the campaign, about the end of the year 1797, he returned to Paris, where he began to discharge the duties of his professorship at the military hospital of the Val-de-Grace, by delivering a course of lectures on anatomy and military surgery; but he had not been long engaged in this pursuit, before he received orders to join the army destined to invade this country, called the army of England. He did not, however, join this army: the *preparations* he had made for his attendance on the imperial guards, both on their *passage* across the British channel and after their landing, were not required, and he received orders to proceed to Toulon, whence in 1798 he sailed with the French expedition to Egypt.

On his return from Egypt, M. Larrey was appointed surgeon to the consular guard. The first consul not long afterwards assumed the title of emperor, declared war against Russia and Austria, and headed the French troops in the campaign which ensued and was called the campaign of Austerlitz, from the battle which decided its fate. At the battle of Austerlitz, M. Percy being surgeon in chief to the army, M. Larrey was stationed with the imperial guards, and commanded the ambulances belonging to that corps of which he was surgeon. The French imperial guards made a desperate charge on the Russian guards and a considerable number were wounded on both sides.

"All the wounded were operated upon or dressed on the field of battle, and removed by the carriages of the ambulance to the central ambulance which I had stationed in the barns of a mill. The speed with which these carriages moved enabled us to help in removing, from the field of battle, the wounded belonging to the line. I followed with my own ambulance the movements of the guards, but halted whenever it was necessary."

We should greatly exceed our limits if we attempted to follow M. Larrey through his accounts of the campaigns in Prussia, Poland, Austria, and Spain; he was present at the battles of Jena, Friedland, Eylau, and Wagram, and was attached to the army against which Sir John Moore was engaged at Corunna. We shall extract a few of the most remarkable cases and refer our readers to the work itself, for,

details into which we cannot enter. We have already had occasion to take notice of his opinion of the propriety of performing amputation immediately, in those cases in which the operation must be performed. The experience of subsequent campaigns has served only to confirm him in his opinion, that the practice of delaying amputation, which still lately was universally adopted in France and which is still by many surgeons of the greatest eminence in this country considered as the best, is attended with the greatest danger. We own that till we saw M. Larrey's first work we were decidedly of opinion that in cases requiring amputation, it was most advisable to delay the operation till the first symptoms attending the accident were removed; our confidence however, in the doctrine of delayed amputation was greatly shaken by his authority, and we staved our doubts on a question on which we did not feel competent to decide. From the impression produced by the perusal of M. Larrey's work, we are inclined to think that in all cases in which a limb cannot be preserved, the sooner it is amputated the better, provided it can be done before inflammation comes on. Admitting this question however, to be doubtful as far as regards cases in private practice, where the patient has every convenience that his situation can require, it does seem to us that in military practice, after an engagement when an army is moving rapidly and the means of conveyance not easily procured, it is far better to amputate at once, than to drag men along with shattered limbs, exposed to hemorrhage, and suffering excruciating pain from the roughness of the roads and the shaking of the carriages. We can even conceive that the difficulty of conveying the wounded may make it right to cut off limbs which in private practice might be preserved. J. L. Petit the first surgeon of his day and of great experience in military surgery, may be quoted as an authority even in the present times. "There are cases," says that great surgeon, "in which we are obliged to perform amputation, though the operation may not seem absolutely necessary. If, for instance, the bones are shattered, without any injury to the great vessels, one might entertain a hope of preserving the limb, but if the patient is to be removed to a distance, and in jolting carriages, the motion will occasion excruciating agony, the splinters of bone will wound the flesh and bring on dangerous hemorrhage and even gangrene. Such is the deplorable fate of many poor soldiers after being carried from the field of battle to the hospitals. I have seen many die of hemorrhage who might have been saved if it

had been possible to perform amputation before removing them; I have even seen wounds which of themselves were not mortal become such from motion or from the heat or cold to which the wounded were exposed on their way to distant hospitals. Those who have practised surgery in the armies have witnessed, like myself, the death of numbers who would have been saved but for the fatal necessity of moving them.”*

We are willing to give M. Larrey credit for considerable merit as a practical surgeon. He is a bold and we should conceive from his experience an expert operator, but as a theorist he is less successful. It would require stronger arguments than he has adduced, to satisfy us that aneurism is generally occasioned by a psoric, herpetic or syphilitic virus. A case of aneurism in the popliteal artery is related by him, in which “after mature consideration of the circumstances, he was led to think that it could be occasioned by no other cause than by the repercussion or an herpetic eruption, in consequence of the use of astringent applications to the part;” he delayed the operation, which was about to be performed, and “applied a graduated and methodical compression; prescribed antipsoric remedies, in the shape of pills and pitans, ordered a mild regimen and that the patient should remain in absolute rest.”†

Our author’s notion of the manner in which the hemorrhage is suppressed in a case of divided artery is more sound, and though unacquainted with Dr. Jones’s work on the same subject, though ignorant of the effect of the ligature in rupturing the inner coat of the arteries, (a fact long ago observed by Desault, but turned to no advantage by himself or the other French surgeons), yet he has made a nearer approach to the truth than any of them; for he observes and proves, very clearly, that the formation of a clot is of itself insufficient to suppress hemorrhage, and that “unless a sufficient degree of irritation be applied to the vessel, when the compression ceases to act, the bleeding will be renewed,” and he conceives the closing of the vessel to depend on the “*contraction and adhesive inflammation* of its parietes.” Hence he infers, that it is not necessary for a ligature to remain on an artery beyond the period of that adhesive inflammation. He conceives twelve or, at most, twenty four hours a sufficient length of time for this process to take place, and says “he is so convinced, of

* *Œuvres Posthumes de J. L. Petit*, vol. III. p. 130.

† Tome II. p. 371.

this fact that he never makes but one knot in tying even the largest vessels; he considers the second knot as useless and as objectionable, from the difficulty of removing the ligature." What has been said applies however, only to cases of wounded arteries in acute affections, as in the wounds inflicted in battle. In chronic cases and where the patient is much exhausted, he holds it indispensable to secure the ligature with a double knot. He ascribes the action of styptics and cold to the corrugation which they produce on the coats of the arteries and to the inflammation which they excite in the divided extremities of the vessels, and he observes that in the amputations performed after the battle of Eylau, when the thermometer stood 14 or 15 degrees below zero, it was found unnecessary to tie any but the largest arteries.*

One of the most interesting chapters in the volumes before us, treats of mortification in consequence of gun-shot and other wounds. M. Larrey complains that a sufficient distinction is not made between gangrene from spontaneous causes, as he terms it, and that which takes place after injuries done to limbs by external causes. Spontaneous gangrene generally stops spontaneously, and there is formed a line of separation which determines the period of amputation and the spot at which it is to be performed; but in *traumatic* gangrene, this separation does not so usually take place and the mortification spreads till the patient dies, unless the progress of the disease is arrested by amputation. M. Larrey after witnessing the death of several patients, in consequence of following too strictly the rule generally laid down of not performing amputation till the separation between the mortified and the sound part had taken place, determined to depart from this maxim and to give the patient a chance of life, rather than devote him to certain death by allowing the disease to follow its own course. Six cases are related, in the course of this work, which strongly tend to establish the propriety of the practice which he has recommended. We are further informed by him that, after the battles of Austerlitz and Jena, several of the principal surgeons in the army, emboldened by the success he had met with in the treatment of gangrene of the extremities, performed amputation without waiting for the line of separation, and that their practice was generally successful. For a detail of the cases, some of which are highly interesting,

we must refer to the work itself; the subject is important and deserving of the most serious investigation.

M. Larrey began his career as a military surgeon twenty five years ago, and since the revolution, has filled a high station in the medical establishment of the French armies, or has been engaged in the laborious and honourable task of public instruction. He has had but little leisure for the acquisition of professional erudition, often so vainly boasted of by those who have little else to recommend them. His studies have not been carried on in the closet, but on the field of battle, in military hospitals and in the dissecting room. In peace, and even in war in the occasional leisure of a campaign, he was employed in communicating to the younger surgeons under his command, instructions in anatomy and surgery, especially in anatomy so essential to all surgeons, but in particular to the army surgeon obliged to act on the spur of the moment, at a distance from books and guided solely by the knowledge he may have laid in store against the day of need. Then it is that the anatomical surgeon feels his own superiority and acts with that salutary decision and professional intrepidity which is to save valuable lives; and secure to himself the highest of rewards, his own approbation and the gratitude of his country.

The French at one time certainly excelled us in surgery; at present, we are far beyond them, yet as we stated in a former number, and we have not found reason to alter our opinion, their clinics are better provided with surgeons, and these in general are better educated. We have scarcely a work on military surgery in the English language; scarcely a military surgeon that ever wrote on his profession. One, we believe, of the eminent surgeons in London has served in the army, but that service was of short duration; no other of our public teachers and scarcely any of the surgeons of the great hospitals in the metropolis was ever on a field of battle. There exists it is true, in this kingdom, one professorship of military surgery filled by a gentleman of acknowledged talents, but even he never saw military service.

Young men, in our profession destined to practice as army surgeons, receive in general an education much inferior to those who intend to settle in private practice; yet the duties of an army surgeon in actual service, require if possible a much greater share of professional skill and of ready knowledge. In private practice, a surgeon may in the leisure of the first years after he engages in the profession, make up his

private study, for the defects of his education and for what too many have to regret, the time that has been lost at college, or at the hospitals. But in the army on actual service, there is no leisure for reading, and if there were, books are not at hand; nor can he supply his own deficiencies by the abilities of others; he is often left to his own resources; and in cases of life and death, at a distance from counsel, must decide and act from his own judgment, and in reliance on his own skill.

Young men are admitted at too early an age into the army, and before they have attained the necessary degree of information; they are more anxious to pass their examinations (and he must be ignorant and unlucky indeed who cannot pass such examinations), than to fit themselves for the high and responsible office they desire to fill. Once in the army, there is but too often an end to all study, and the young surgeon is left without one inducement to improve himself, either by the example of his own superior officers, or the hope of promotion from professional ability. If he have interest, he need not fear that his want of professional skill or education should stand in the way of promotion, and if he have no interest, he waits patiently that seniority may advance him in his turn to higher rank. It is right that seniority and experience, as it is termed, should be considered and that length of service should be rewarded; but in our profession, a grievous mistake is often committed in estimating professional experience. Experience or seniority is estimated by the date of the commission, whereas it should be reckoned by the time really devoted to the study of the profession. A young man, after spending a few years, not in the most profitable manner, in the shop of a country apothecary, passes a few months in London in walking hospitals and in seeing operations which he cannot understand because he knows nothing of anatomy. He attends diligently the anatomical theatre, takes notes, committing regularly to paper the lecturer's description of parts, instead of looking at them; he is occasionally seen in the dissecting room, and there he mangles parts of the human body without knowing what he is about, for he has no leisure to dissect, having to attend classes at almost every hour of the day. At the end of a season so spent, he presents himself at Surgeons Hall, furnished with printed testimonials of diligence, passes his examinations, and is authorised to practise his profession.

This young man, ignorant of every branch of his profession, if he go into the army, will have the advantage of seniority and rank over his fellow student who commenced his studies

at the same time, but who instead of entering the service at the end of the first year, has passed several years in laborious study. Let the latter enter, he will find himself commanded by the man who at college or at the hospital, he despised, for inability and ignorance. Under such circumstances, it is to be wondered at that he should feel disgusted and take the earliest opportunity of quitting the service. The army is the resource of the needy student who cannot afford to complete his education or who has not the means of engaging in private practice; this is a fact universally known; hence the number of ill-educated army surgeons is so great, whilst of those that enter the service with the advantage of a good education, few, as is observed of army physicians by an army physician himself, remain longer than is necessary to let their heads grow.

A young surgeon should not be blamed rashly, for neglecting to qualify himself for his profession, if he have not, as is the case with too many, the means of defraying the heavy expences of a complete medical education. Under the most unfavourable circumstances, a man of genius will attain excellence and make up, by his own exertions and by a diligent use of every opportunity of acquiring knowledge, for the deficiencies of early instruction. But such cases are rare and not to be taken into account in a general view of the education of army surgeons. The expensiveness of a medical education is one great cause, why so many of our army surgeons are so imperfectly taught. Scarcely any man would be so thoughtless or unprincipled as to enter the service with a consciousness of his unfitness for the office he undertakes, if he were not urged by necessity, by a want of pecuniary resources. The evil lies in the want of a provision by government for the education of army surgeons. Military hospitals are supported at a great expence near the metropolis, the duty of which is performed by salaried physicians and surgeons. Why might not the young student, destined to the medical service of the army, instead of wandering about the general hospitals of the metropolis, receive gratuitous instruction in these hospitals, where he would see what he is really concerned with, the diseases incident to soldiers? Why might not anatomy, military surgery and medicine and the other branches of our profession be taught in these hospitals by men of ability and experience in their profession? Such a plan would be attended with the greatest advantages to the service, in providing a sufficient supply of well informed medical officers whose qualifications would be known from their earliest initiation into the profession and whose services

might be applied in the manner best suited to their abilities. Such a plan would be of use in another point of view, it would stimulate to exertion the medical officers of the institution, and the service of the hospitals would be carried on with greater energy and effect from the publicity given to the practice of the physicians and surgeons. These great hospitals which have hitherto contributed little or nothing towards the improvement of the profession would in the hands of able men spurred to exertion by emulation, furnish the most valuable records of military medicine and surgery. Men educated in such schools, skilled in their profession and ardent for its improvement as the surest way to promotion, would on actual service afford the best proof of the utility of the institution. Let it not be urged in objection that gratuitous lectures delivered by salaried professors would not be attended that they would be delivered carelessly as the salary would be paid whatever might be the merit of the lectures. Choose fit teachers and this objection will never exist. We are surely not in this country inferior in emulation or desire of distinction to our neighbours. The French professors are not paid by the students; they receive salaries; the lectures of Desault, of Bichat and of Corvisart were gratuitous, yet they were well attended and worthy the reputation of these great men.

Schools are provided for the different departments of military service, and a most splendid national establishment has just been completed for the education of military officers. The army is not considered as a sufficient school of military study, places of preparatory instruction are now deemed necessary for officers destined to serve in the engineers or artillery and even in the line. The medical officer is received with scarcely any inquiry into his previous education, and no provision is made for his obtaining that knowledge of his profession which he cannot like the military officer acquire by mere length of service, unaccompanied by previous instruction. We have exceeded our limits, some may think we have unjustifiably gone out of our way in speaking of the military medical establishment of this country; we were led to it by the subject before us, and we could not resist the expression of our regret that in military, as in civil surgery, we should not surpass every other nation in Europe.

We have able surgeons in our armies, but owing to the circumstances already noticed their number is exceedingly limited; indeed the medical establishment of our armies, on actual service, is not sufficiently strong for the exigencies of a campaign. We

ventured in a former number to suggest a mode of raising an efficient temporary force, in the manner practised by the French, on any sudden emergency. On the present occasion, we have presumed to engage in a wider investigation into the inefficiency of our military medical establishment; and to lay before the public the great and permanent causes which withhold from our armies the advantages they ought to derive from the present flourishing state of our profession. The evil is not to be removed by temporary expedients for temporary emergencies, but by such a systematic provision for the cultivation and encouragement of talents in this department, as would be consistent with a great and powerful nation.

ART. V. *Philosophie Zoologique, ou Exposition des Considérations relatives à l'Histoire Naturelle des Animaux; à la Diversité de leur Organisation et des Facultés qu'ils en obtiennent; au Causes Physiques qui maintiennent en eux la Vie et donnent lieu aux Mouvements qu'ils exécutent; enfin, à celles qui produisent, les unes le Sentiment, et les autres l'Intelligence de ceux qui en sont doués.* Par J. B. P. A. Lamarck, Professeur de Zoologie au Muséum d'Histoire Naturelle, Membre de l'Institut de France et de la Légion d'Honneur, &c. &c. 8vo. Paris, 2 Tom. 1809.

As the traveller sees little of a mountain whilst he stands upon it, and is obliged to place himself at a distance before he gains a full view of its form and magnitude, so an examination of the state of life among the inferior tribes of animated beings, although somewhat remote from medical science, may perhaps afford us some useful information relating to that more perfect animal whose physical nature is our proper study.

M. Lamarck is the professor of zoology in the museum of natural history at Paris; he is the author of several publications in this department of science, as "*Recherches sur les Corps Vivans*," "*Mémoires de Phys. et d'Hist. Naturelle*," and "*Hydrologie*," and holds we understand a respectable rank amongst the men of science in the French metropolis.

The title explains the nature of this publication. It is a

specimen of that kind of intellectual work to which the present race of scientific writers in France is so much addicted; and we may add in which they so much excel; making no addition to our stock of facts, giving no fresh insight into the causes of unexplained phenomena, but presenting those new views, those general principles, which are highly acceptable to young men who are not yet able, and to old men who never will be able, to form them for themselves; but which unless they are the produce of the most vigorous understandings are very tiresome and uninteresting to grown-up minds of moderate vigour and comprehensiveness. We do not mean, however, by these remarks to indicate the quality of those views which the present work presents; this will more properly appear in the sequel.

The principal points for which M. Lamarck contends are these:—that in tracing the chain of animated existence from the most imperfect to the most perfect class of living beings, there is observed a gradual increase in the complexity of their organisation, and consequently in the number of their vital faculties;—that they are modified to an enormous degree by circumstances, those which call any particular part into action evolving that part into a degree of relative importance which it did not originally possess, and vice versa those which afford no exercise to a part causing it in the same length of time to shrink and disappear; so that as new circumstances evolve and as it were bring into relief new parts and faculties, and as these are perpetuated by generation, animals come in process of time to acquire an appearance in many instances entirely different from what they originally received from Nature;—that animals are essentially distinguished from vegetables by the possession of irritability, which is entirely wanting in the latter;—that irritability is essentially distinct from sensibility;—that the only direct creations of Nature are the most simple forms of organic life;—that the properties of life common to all living bodies do not require any particular organs or parts of the body as their seat, such as brain, lungs, kidneys, &c.;—that with every faculty over and above those which are common to all living bodies, is superadded an organ which is the seat of the faculty;—that the nervous system as it is called imparts several faculties according to the degree in which it is developed, communicating in the first degree muscular motion, in the second motion and sense, in the third motion, sense and intelligence;—that the brain is the organ of intelligence, and in proportion to the degree in which

is developed is the number of the mental faculties. As it is impossible within our limits to discuss all these questions fully, and as momentary glances are the most uninteresting things in the world, we shall stop only to consider those points which are the most important, the most novel, or the most questionable.

With regard to the influence of circumstances on the form and organisation of living bodies, the position of M. Lamarck is, that new circumstances lead to new wants, new wants to new habits, and new habits or habitual actions after a long continuance to a consequent modification of their forms and faculties. Thus, if the seed of one of those herbs which flourish and fatten in the rains and soil and sun of the meadow below, should be transported to an elevated dry stony spot, and there shoots up, and lives and perpetuates its kind, it will in time give rise to a new race of vegetables which would have scarcely any likeness to their fully fed progenitors in the meadow, being meagre, having some of their organs more and some less developed, and consequently offering to the observer new and peculiar proportions. The influence of circumstances on the forms of vegetables is rapid and consequently remarkable. Every one knows that the plants and flowers of our gardens are no where to be found wild, but the animals which we have domesticated have undergone equal although slower changes. Our fancy pigeons, our tumblers, and croppers, and fan-tails have no where been found wild in the woods. The flocks and geese of the farm-yards have lost that power of wing which they enjoyed in a state of nature, and the wool of European sheep turns to hair in tropical climates. The varieties of the dog species which now exist originated in one kind, which having been tamed by man, carried into different climates, and placed in different circumstances, have assumed that diversity of form and character which we now observe in them. These and a multitude of analogous facts plainly prove that a change of circumstances is able to effect a change in animals suitable to those circumstances, and that these changes are perpetuated by generation; when, therefore, we see that throughout the animal creation there is a remarkable adaptation between their forms and faculties and their wants and necessities, we may fairly conclude that it is not their faculties which led to their habits, but their habits which led to their faculties and forms.

The way in which situation influences the form of animals is, that by affording employment to some parts it causes their

evolution and enlargement, and by giving no exercise to others it prevents their growth, and after a succession of generations causes them to disappear. Thus in the whale which has been supposed to have no teeth, M. Geoffroy has found them in the jaw of the fœtus; in birds also he has discovered a groove for their reception, but these animals are so placed as to be nourished without mastication, and the consequence is that their teeth have never been evolved. In the same way the mole, the apalax, the proteus, an aquatic reptile which lives in deep cavities under the water, by their constant disuse of the sense of vision, have lost almost all but the vestiges of its organisation. In serpents as in all vertebral animals their system of organisation comprehends four feet, but these animals being in the habit of creeping along the ground, sliding into narrow crevices and crouching under low herbage, have lost all but the vestiges of feet and have acquired in their stead a great length and slenderness and slipperiness of body.

There are facts equally numerous and equally convincing which show that the great exercise of a part will produce its proportionate evolution. Thus sea birds which prey on fish when they move along the surface of the waters open their claws to give a greater breadth to their ears, by this action the skin which unites them at their basis is stretched and in time enlarges into a web. In a similar way land birds which are in the habit of lighting and hanging to the branches of trees gain then long curved claws, and river birds acquire, as we have seen, their long necks as the swan, and others their long naked limbs as the heron.

But effort and habit is able not only to effect the extraordinary evolution of an organ, but even of effecting its displacement into a new part of the body. Thus fish which swim in deep and spacious water requiring to see laterally place their eyes placed in that direction; but those which have occasion to enter rivers whose edges are shallow are forced to swim on their flat surfaces, that they may approach nearer to the banks; in this situation receiving more light from above than below and having occasion to be most watchful in the same direction, necessity has forced one of their eyes to submit to a species of displacement and to take the very singular situation which is observed in soles, turbots, brets, which have both their eyes on the same side of the head. It is necessity and habit which in grazing animals who spend the chief part of their lives standing and loitering, have hardened their feet into hoofs, and made their

limbs unfit for rapidity, which have lengthened and split the tongues of asps and serpents, which have given slenderness and swiftness to the limbs of the antelope and the hare, and to the giraffe its marvellous loftiness of stature.

In the foregoing remarks, although we have been the expositors of a doctrine of which we are far from being the advocates, we believe that we have made an honest statement of M. Lamarck's opinion; at least, although we have not used his expressions we have omitted nothing in the mode of explanation which in the smallest degree contributed to render it more convincing to our minds. It has led M. Lamarck to conjecture that the fossil bones and shells of animals which as far as we know have now no living analogues, are not extinct species, but species that have been so modified in form by the changes which the earth has undergone during multitudes of ages that their living descendants have lost all perceptible resemblance to them.

To this doctrine which our readers will remember, in an equally convincing and a far more striking form in the eloquent language of Dr. Darwin, we have only a few things which we think it necessary to oppose; in these days of strict induction, it will win over but few converts. It is plainly only a guess, and a guess which has not the recommendation of novelty. That the forms and faculties of animals are modified by long habit is unquestionably true to a certain extent, but surely that is bad philosophy which because it appears that a cause has done something, infers that it has done every thing. But if the principle is true to the extent to which M. Lamarck has carried it, it is true to a still further extent; if it is the blind influence of circumstances, and not the enlightened benevolence of the Deity, which has caused that admirable fitness which we behold between the faculties of animals and their wants and necessities, if to make use of one of M. Lamarck's examples, teeth arise from chewing, and not chewing from the possession of teeth; then is there equal reason to believe that all the other organs and faculties of animals have arisen in the same way, that the whole living creation has alike been produced "from a similar living filament; that in some this filament in its advance to maturity has acquired hands and fingers with a fine sense of touch, as in mankind; in others it has acquired claws or talons, as in tigers and eagles; in others it has acquired an intervening web or membrane, as in seals and geese; while in the bird kind this original living filament has

put forth wings instead of arms and legs, and feathers instead of hair.*

But among the peculiarities by which animals are so admirably adapted to the peculiar circumstances in which they are placed, there are many which we think obviously arise from the same cause as the foregoing, but are not capable of being explained on this principle of habit or exertion. We mean that many animals have received colours from Nature which serve them for the purpose of protection; "thus the snake, and wild cat, and leopard are so coloured as to resemble the dark leaves and their lighter interstices under which they hide themselves; some birds are brown like the ground, and others green like the leaves which are their usual places of resort; a sea-shore bird vulgarly called a stone-runner is coloured precisely like the stones which are his usual lighting places, and this screens him so effectually that as he flits from one to another, those who stroll along the beach hear his chirping, but he is no where to be seen. Even the eggs of birds are coloured and spotted so as to resemble the object by which they are usually surrounded. These are plainly examples of natural adaptation which belong to the same class, and arises from the same causes as the foregoing, but which can never have arisen from any exertion in the animals or the eggs, more especially the latter, unless indeed we acknowledge in eggs similar capacities to those which resided in the marvellous loadstone of Mr. Theodore Hook, who tells us that his magnet from a long interval of inaction lost its power of suspending bodies, but that on subjecting it to a training system for two years, making it carry weights, and gradually increasing them, he at last brought it into such admirable condition that it was able not only to carry sixteen times its weight as it formerly had done, but that its suspending power was vastly augmented.†

The next parts which we shall examine are the considerations on the physical causes of life, in which from a number of expressions we were led to hope that M. Lamarck had made some important discoveries, or at least that he had attained a greater degree of clearness and precision than any former writers on this mysterious subject. Here we find that whilst in a former part of this article we were contending against the

* Zoonomia, sect. 39. 4.

† Grew's Catalogue of the Natural Curiosities of the Royal Society.

principle that the faculties of animals were the fruit of their habits and not their habits the result of their faculties, what we looked on as a *reductio ad absurdum* was in fact a plain statement of Mr. Lamarck's opinion. This it is true ought not to have surprised us, for if effort and habit are capable of moving the eye of a turbot from one side of the head to the other, there is surely nothing in nature which they are not capable of doing.

"In truth," says he, "for living bodies to be really productions of Nature it is necessary that she should have had, and that she still has, the power of producing some of them, and having furnished them with the faculties of growth, multiplication, and of compounding more and more their organisation, and of undergoing changes in time and according to circumstances, all those which we now observe are truly the product of her power and her means.

"I propose now to show what is the mode which Nature employs to form, in favourable places and circumstances, living bodies the most simply organised, and consequently animals the most imperfect, how these animals so frail which are as it were only rough sketches of animality directly produced by Nature, become developed, multiplied, diversified; how lastly, after an infinite succession of regeneration the organisation of these bodies has increased in composition and extended more and more the animal faculties in the numerous races which are the results.

"If we attentively consider the different phenomena presented by organisation we shall be convinced, 1st, That the operation of Nature to form direct creations consists in organising with cellular texture the little masses of gelatinous or mucilaginous matter which she finds at her disposal and in favourable circumstances: in filling these small cellular masses with containable fluids, and in vivifying them by putting these containable fluids in motion by the help of the subtle exciting fluids which unceasingly flow in the surrounding media.

"2d, That the cellular texture is the base on which all organisation has been formed, and in the middle of which the different organs have been successively developed by the movement of the containable fluids which have gradually modified the cellular texture. 3d, That the result of the movement of the fluids in the permeable parts of living bodies which contain them, is to strike out passages, places of deposit, and outlets; to create canals, and consequently different organs; to vary these canals and these organs according to the diversity either of the movements or of the fluids; lastly, to enlarge, to elongate, to divide, and gradually to give solidity to these canals and their organs by the substances which are formed and separated without ceasing from the fluids which are in motion,

substances of which one part is assimilated and united to the organic, whilst another is rejected. 4th, That lastly, the result of organic motion is not only to develop organisation, to extend parts and to give place to growth, but also to multiply organs and to fulfil their functions. After having exposed these great considerations which seem to me to present *incontestable truths which have never till now been perceived (!!!)* I shall examine what are the faculties common to all living bodies, and consequently to all living animals.

"I dare assert that it is an abuse very hurtful to the advancement of our physiological knowledge to suppose that all animals without exception possess the same organs and enjoy the same faculties, as if Nature was forced to employ throughout the same means to arrive at her object."

It is to the subjects hinted at in these latter paragraphs that we intend now to turn our attention; to the former we have nothing to say, for we need say nothing.

M. Lamarck's notions concerning the exciting cause of organic movements may be thus stated: All the material world is filled throughout with various invisible and uncontainable fluids, of which the best known are caloric and electricity; these penetrate the substance of living bodies, rarefy their fluids, give their soft parts a kind of erithysm or tension, and are the direct agents which produce the orgasm* and interior motion which constitutes life. The office of the caloric is to keep up the orgasm of the living solids, and that of the electric fluid to excite their organic movements. That the orgasm depends on the caloric is evident from the phenomena of inflammation, in which the excessive orgasm which constitutes the disease obviously depends on the excessive caloric which accompanies it; but the motions of caloric from one body to another are far less rapid than those of the electric fluid, the latter therefore must be the proper cause of the motions and actions of animal bodies. In animals whose organisation is

* The orgasm is elsewhere defined thus, "I call a *malorum* that singular state of the supplicious of a living animal which constitutes in all points of these parts a particular tension, so dense as to render them susceptible of a sudden and instantaneous reaction against every impression which they may experience, and which makes them consequently react on the moving fluid which they contain. This is surely a fine notion, is it not? It reminded me of a Frenchman with whom I once travelled, I must go on describing a French storm, who wishing to astonish his fellow passengers by the depth of his knowledge, attempted to explain the nature of this phenomenon, but finding that he further he went the deeper he got, concluded by assuring us that "on toindrait de tondre."

simple; the caloric of the surrounding media seems to be sufficient to keep up the natural degree of orgasm; at least it is all they possess, for in low temperature, and in high latitudes, some die, and others become torpid. Animals of a more complex structure have the power of generating heat for themselves, which during its elaboration in their inward parts probably undergoes some alteration in quality which renders it more efficacious than that of inanimate matter for the purposes of life; hence those notions which were formerly current, but which have now been discarded by all but the observing and unphilosophic vulgar,* that the paunch of a newly slain animal was efficacious for enfeebled limbs, and that no artificial heat was like the living warmth of a youthful female to rekindle the failing vitality of an old man. It is probable also that the electric fluid which is the cause of animal motions undergoes a similar change, getting entrance into the body by means of respiration and digestion, and afterwards undergoing such a modification as converts it into the nervous or galvanic fluid.

In this way M. Lamarck proceeds to disclose his peculiar philosophy; we shall not undertake to refute it, because it would be a dull task for ourselves and a much duller for our readers, if we were to endeavour to show that black is not white with all the forms and ceremonies of logic. It is however, not a little amusing to see how thoroughly satisfied he is with the truth of his notions, and so far from dreaming that they not only want but are incapable of proof, he is continually inveighing against yielding ourselves up to imagination in affairs of philosophy. Thus says he in one place, "Every

* In this age of science there is too great a disposition to deny what cannot be explained. That porter drinks better out of a metal tankard than out of a glass goblet has long been asserted, but was never believed by the scientific till it was explained by our galvanic discoveries, that tea is better if made in a silver than in an earthen tea-pot, was esteemed by the same class as equally false till Professor Leslie wrote his book on Heat, and demonstrated it on scientific principles; the difference between bad and good wine in its influence on the constitution, is a fact also which every wine-bibber is continually experiencing, but which philosophers consider, and will continue to consider, as a popular superstition till some further improvement in the art of analysis shall disclose the fact in a way intelligible to their understandings. The truth is, that observation always runs before philosophy, and we are continually encountering facts which we are unable to explain. This box only is, but must be the case from the very nature of things, for philosophy, being nothing but the arrangement of facts, they must necessarily be collected by observation long before they can be arranged by philosophy.

time that we quit nature and give way to the fantastic flights of our imagination, we lose ourselves in vagueness, and our efforts lead only to errors." And in another place, after stating the functions of caloric and electricity, as already explained; he adds, "To try to explain how these fluids act, and to determine positively the number of those which enter as elements into the composition of the exciting cause of organic movements, would be to abuse the power of our imagination, and arbitrarily to create explanations of which we have not the means of establishing the proofs." Now if many of those doctrines which we have already explained to our readers as clearly and as honestly as we were able, with a disposition to do them in the statement, all the justice in our power, if these doctrines we say are not "explanations of which we have not the means of establishing the proofs," we know not what are. We should really suppose that M. Lamarck, was endeavouring to deceive us, did not we know the marvellous influence of habit on opinions as well as actions, and how the most groundless notions after having been long entertained in the mind, excite a feeling of conviction which ought to arise only from reasonable evidence. But to proceed in our endeavour to ascertain M. Lamarck's notions concerning the phenomena of life in its simplest form, a task which is by no means easy, for although obscurity is far from being one of the ordinary faults of this treatise, the present portion of it certainly wants clearness. This orgasm or erythism of which he talks so much, seems as far as we can understand it to be represented by the word distension; "it is," says M. Lamarck, "what physiologists call tone, and arises from the presence of an expansive fluid caloric in the texture of the part; when any cause is applied which provokes contraction, the phenomenon of contraction depends on the extraction of a portion of this caloric from the part touched, which for a moment suffers an emptiness from its escape, but this emptiness lasts only for a moment; this expansive fluid rushes from all the surrounding parts of the organised body to fill up the vacuum, and the point, which had for a moment sunk or contracted, rises again to its former degree of distension or orgasm." Although we have not here employed M. Lamarck's own expressions which are far too diffuse for our limits, yet the above statement conveys the same ideas, as far as we have been able to draw them within reach of our comprehension. It seems intended to convey not a metaphorical, but a literal account of the phenomenon of vital motion; according to this account it

is not only analogous, but precisely similar to 'the contraction of an inanimate fluid on the subtraction of heat; and the shrinking of a living part on the application of a stimulant, and that of the mercury in the thermometer on the application of cold, are processes identically alike. To this doctrine our readers will anticipate a crowd of objections, all comprehended within this general query, Why is not the contraction of a living part and that of the inanimate fluid produced by the same causes and governed by the same laws?'

"Irritability," to quote M. Lamarck's own words, "is the faculty which the irritable part of animals possess of producing suddenly a local phenomenon, &c. This phenomenon consists in a sudden contraction or sinking of the part irritated, a sinking accompanied by the approach of the surrounding parts towards that which has been affected, but it is soon followed by a contrary movement, by a redistension of the point irritated and of the neighbouring parts. I have said that the orgasm depends on the presence of caloric; but if any impression operates on a part and produces a sudden dissipation of the invisible fluid (caloric) which distended it, then the part sinks and contracts; but if at the same instant a new quantity of expansive fluid distends it anew, then it reacts, and this produces the phenomenon of irritability."* And thus terminate M. Lamarck's new views of the causes of animal movements. Our readers will clearly see how much is new in fact, and how much new only in name; and of that which is really how much is true. Irritability is denied to exist in vegetables merely on the ground that the orgasm, or distension of texture exists in them only in an obscure degree, which although it undergoes changes, yet these are so slow as not to lead to that sudden alternation of sinking and distension which constitutes the phenomenon of irritability; so that even according to M. Lamarck's own opinion the vital movements of vegetables differ from those of animals in degree rather than in kind. The motion of the sensitive plant is asserted not to arise from irritability, but "from a relaxation in the articulations of the branches, and the petals which are disturbed which permits the branches and petals to sink; but this sinking being once produced, it is in vain that we touch it again; a time sufficiently long must pass to allow the articulations to become redistended, and the petals and branches to rise again to their

former state." Some English botanist (Payne Knights?) has in a late botanical essay stated the same opinion.

Our notice of this work has already extended to such a length, that we find ourselves obliged to pass over several chapters, the titles* of which will be some guide to the nature of their contents, and to proceed to the third and last section of this voluminous treatise;—to that relating to the nervous system, to the various degrees in which it is engaged by different species of animals, and the bodily and mental faculties by which these various degrees are accompanied.

The structure of the nervous system, according to M. Lamarck, consists of a medullary pulp, of an aponeurotic covering it, and of a certain invisible fluid which moves along it, and on which its functions, astonishing as they are in the more perfect animals, depend: it is formed of filaments or chords of various sizes which run to a common centre; this centre, in certain animals without vertebrae, consists of ganglions or a longitudinal marrow; but in vertebrate animals it consists in the spinal marrow, and in the medulla oblongata which joins it to the brain commonly so called; the two hemispheres of the brain are not the sensorium commune to which sensations go and from which motions originate, but a special organ added to the nervous system and the seat of a particular class of faculties, namely, those of understanding. The functions of the nervous system are four, first, to provoke the action of muscles; secondly, to give place to feeling; thirdly, to produce the emotions of the internal feeling; fourthly, to form ideas, judgments, thought, imagination, and memory. There is reason to believe that among the different systems of nerves which compose the nervous system in its perfection, that which is employed for the excitement of muscular motion is distinct from that which serves for the production of feeling; first, because they are actions which travel in opposite directions, the

* C. 5. Of the cellular structure considered as the substratum on which all organisation is formed. C. 6. Of generations direct or spontaneous,--which if we rightly comprehend it attempts to show that nature directly creates only the simpler forms of animal life, such as the animalcules of infusion which by the developing influence of circumstances, after multitudes of ages, attain at last to that state of complexity which we notice in the more perfect animals; that is, that these animalcules are capable, give them but enough of time and favourable circumstances, of becoming in their remote descendants, eagles, and whales, and men and women!! C. 7. Of the immediate results of life in a body. C. 8. Of the faculties common to all living bodies. C. 9. Of the faculties peculiar to certain living bodies.

former proceeding from the centre to the circumference, and the other from the circumference to the centre; secondly, because an animal may move his limbs without experiencing a sensation, and may feel without its being followed by any muscular motion. It is one of M. Lamarck's principal doctrines that the nervous system in its most imperfect state of development gives muscular motion but not sensation, yet we find little more in support of the statement, than the statement itself.

That the two hemispheres of the cerebrum form a special organ which is the seat of thought and intelligence appears from this, that every animal who possesses these parts enjoys in some degree these mental faculties, and that the degree in which they are enjoyed is always proportionate to the size by which the part has been developed. "The operations which give place to thoughts and meditations are executed in the superior and anterior part of the brain; hence when our attention has been fixed for too long a time on any subject, there remains a pain of the head, particularly in the forehead;" hence also those who live a life of mental reflection have this part of the brain more developed than others, as is shown by that prominence of the forehead immediately over the hemispheres which we observe in the profiles and busts of celebrated philosophers.

We pass over all that part of this treatise which relates to the nervous fluid, and the way in which it causes the phenomena of motion, sense, and understanding. Such theories are to us "antiperistaltic and emetical." It is true, says M. Lamarck, that this fluid is invisible; we cannot collect it in glasses or subject it to our tests; we know it only from its effects, but these effects are as clear a proof of its reality as a particular assemblage of liquidity, colour, taste and stimulantcy prove the reality of brandy; but this we deny. What portion of the above-mentioned phenomena are explicable on the supposition of a fluid, excepting their moveableness from one part of the body to the other, as when the desire of a gold snuff-box moves in a twinkling from the brain of a pick-pocket to his fingers ends, a phenomenon which, by the bye, is far too rapid for any other fluid than the electrical, which has never yet been proved to be a fluid, or those rapid diminutions of vitality which occur during life, as in fatigue, or any other kind of exhaustion which may appear somewhat analogous to the evaporation of a fluid? What similarity is there between anger or any other passion, and the quality or state

of any conceivable fluid? what fluid could show the analogy between the tumbling of an acorn and the circling of the planets? is it the property of fluids to retain impressions like the memory, which, considering the number of ideas passing over it, is wonderful for retaining rather than forgetting so much, (many a man preserves in his mind a more distinct record of his lost friends than the grave-stone which covers them)? is it, we repeat, the property of fluids to retain impressions like the memory, when the very poet has employed the idea of "limning on water" as the most striking image of evanescence? The fact is that this theory of a nervous fluid which has been refuted and re-refuted so often arises from that natural disposition to explain appearances which are strange, by those which are familiar, when frequently the only difference between the two is in the degree of familiarity. Our supposed processes of reasoning are much oftener matters of feeling than is commonly suspected; we feel surprised on encountering a fact that appears strange, and as soon as we have placed it among those which are familiar to us we feel satisfied; this is frequently the whole of the process, and it is more than probable that if the progress of observation had been such that the phenomena of life and understanding had been the earliest and the best-known, instead of finding mankind explaining the phenomena of life by those of inanimate matter, we should have found them explaining the phenomena of inanimate matter by those of life and understanding.

In an ingenious chapter entitled "*De la Volonté*," M. Lamarck contends that volition properly so called, is an action of which those animals only are capable who have the *hypoccephalus* or especial organ of mind, for as will is the result of judgment, and judgment of thought, those who have not the organ of thought and judgment must be incapable of volition; the movements of all other animals arise either from the excitement of their irritability, or from the influence of their feelings.

The organ of mind is described as consisting of the two hemispheres of the cerebrum and of the cerebellum; it consists of an inconceivable multitude of distinct parts, which appear distinguished into regions equal in number to that of the intellectual faculties of the individual. As the organisation of a part becomes evolved by exercise, and modified by its habitual actions, those of the mind, in process of time, induce a proportionate change in the organisation of the brain: hence the difficulty or impossibility which we experience in mature life

of effecting any considerable change in our characters, and overcoming any vicious dispositions of our minds, because we have not only to counteract actions, but to remove structure. "According to the nature of the ideas or thoughts which habitually occupy us is necessarily the particular region of the organ of mind which receives these modifications; this region of our intellectual organ continuing to be strongly exercised acquires developement which in the end may become remarkable by external signs." The principal functions of the organ of understanding are four, attention, "that which gives place to thought, from whence arise complex ideas of all kinds," memory, and judgment.

Haller conjectured that different parts of the brain are the seats of different kinds of ideas, just as its different elongations or nerves are the seats of different kinds of sensations.* M. Lamarck quotes a case from the *Journal de Medicine*, of a man whose right arm was affected with a total insensibility for fourteen years, while during all this time the limb preserved its powers of motion, its size and its ordinary strength unimpaired; the man had a phlegma on the arm affected with all the signs of inflammation excepting pain and tenderness; he broke his arm without knowing it until he found it incapable of motion; the inference which M. Lamarck very fairly draws from this case is, that the nerves of sense and the nerves of motion are distinct from each other. "We lately saw a patient who was suddenly seized with numbness of the head and arm followed by a sense of fulness in the head, a loss of speech, and confusion of mind, but although during this confusion there were numberless proofs of defective memory there was a most perfect command of the faculty of reasoning. Now if a loss of sense unconnected with a loss of motion proves that the nerves of sense and those of motion are distinct from one another, may we not by a parity of reasoning infer from the foregoing case, that the organ of memory and the organ of sense are likewise distinct?"

This latter part of the treatise has disappointed us, for instead of finding the author's extensive and intimate knowledge of natural history brought to bear on the interesting disquisitions of Dr. Gall, as was to be expected in a treatise on mind contained in a treatise on zoology, we found little else than some very sorry and some very common-place metaphysics.

* See *Prima Lucæ Physiologia*, cccclxxxviii.

We must be surprised at nothing of the kind however, when we find our author declaring that "not being able to know positively what is really the fact, I believe that I have attained my object by shewing what is possible,—what is even probable; that is enough for me."

We must now take leave of this author, and though we do so perhaps rather abruptly, we feel that an apology is required, not so much for this abruptness as for the length of space which we have occupied by the examination, a length which is much better excused by the interest of the subjects than by the value of the treatise.

It is by no means easy to characterise the work; it is written by a comprehensive-minded man, full of reflection, and possessed of all the knowledge of the subject, yet it affords so little information concerning facts, and the reflections which are its chief materials are mostly so unimportant, or erroneous, and mingled with so much of that learned dullness which tends to keep knowledge in the darkest nooks and corners of the schools, that we are very doubtful whether it will repay the toil of wading through it.

One of the faults which we have to find with M. Lamarck as a philosophic writer is the length to which he often extends his reflections, we will not say neglectful of, but out of sight of facts; we are continually led through long and wearisome deserts of abstraction without encountering a single fact to encourage confidence or enliven attention. In scientific disquisitions it is useful to accompany every inference with one of the facts from which it is drawn, for although it may not serve as proof, which demands a greater multiplicity of evidence, it exemplifies the statement, and moreover gives it an air of liveliness which is not to be despised, considering the difficulty of keeping up attention through a long scientific discussion.

Repeated disappointment has created in us a prejudice against works which consist in new doctrines without the production of new facts. In works like these we generally find that what is true is not new, and what is new arises only from the over-extension of old principles. This was the case with the new doctrines of Brown in medicine, of Godwin in morals, and of Helvetius in metaphysics, and M. Lamarck has only contributed to lengthen the list of speculative failures. In

every interesting department of science the old facts yet trodden over and over again, become gleaned bare of every inference of the smallest importance, and no longer yield any valuable novelties of opinion, excepting to those extraordinary minds which appear only once in several generations, among whom M. Lamarck certainly will not bear to be classed.

ART. VI. *An Address to the Apothecaries of Great Britain; with an Appeal to the Committee to whom the Interests of Pharmacy are delegated, by the General Meeting held at the Crown and Anchor Tavern, London, July 3d, 1812.* By Pharmacopola Verus. London, 1812. Sherwood, Neely, and Jones. 8vo. pp. 67.

A Letter on the State and Condition of Apothecaries; with Proposals for making their Offices more Respectable, and more beneficial to the Public. Addressed to Pharmacopola Verus. By a True Surgeon. London, 1812. Callow. 8vo. pp. 27.

A Letter to the Editors of the Monthly Compendium of Medicine, containing plain Reasons why the Apothecary who is acquainted with every Department of Medicine, is more entitled to Public Confidence and Remuneration, than partially educated Physicians: being a Reply to the Pamphlet of Pharmacopola and a True Surgeon. By an Independent Practitioner. London, 1812. Sherwood, Neely, and Jones. 8vo. pp. 19.

A Letter in Reply to Pharmacopola Verus, and to a True Surgeon, with Propositions for Parliamentary Regulation. By a Mixed Practitioner. London, 1812. Underwood. 8vo. pp. 21.

The Report of the General Committee of Apothecaries. London, 13th November, 1812.

BEFORE the time of Henry VIII. the different branches of our profession were exercised indiscriminately, and the pen and the pestle, the scalpel and the razor, were wielded by the same hand. That humane monarch, mindful of the "grievous hurt, damage and destruction," which was inflicted upon his liege people, by the multitude of ignorant artificers,

smiths, weavers, women and magicians, who in those days practised the "science and cunning of physic and surgery," graciously enacted that no person should exercise the profession in any part of his dominions, unless he was previously examined, approved, and admitted, by the bishop of the diocese in which he resided.* The same king subsequently instituted the royal foundation of the College of Physicians; † and the rights and privileges of that body were ratified and confirmed to them by various acts of parliament during his reign. Their powers and privileges were enlarged by acts of Charles II. James, Mary, and Elizabeth; the different branches of the profession were separated from each other, their liberties ascertained and determined, and powers given to the College of Physicians, which to this day they have the right to enforce. By these statutes they were made a body corporate, allowed to elect a president, to have a common seal, to purchase land, and to sue and to be sued. It was also enacted that no person should practise physic in London, or within seven miles thereof, unless he be admitted a member of their body, nor in any part of England, unless he had been examined by the president and three of the elects of the college, except he be a graduate of Oxford or Cambridge, which "accomplished all things for his fourme without any grace." ‡ They were also discharged from keeping watch or ward, from being chosen constables, churchwardens, jurymen, and scavengers, and from other offices tending to "their great fatigation and unquieting, and to the peril of their patients, by reason they cannot be sufficiently attended." § They were allowed to fine and imprison all persons violating their laws; to dissect yearly the bodies of six felons; to enter the shops of apothecaries and to hunt for bad drugs. They were endowed with an inquisitorial power over the other branches of the profession, the administration of which was amenable to their jurisdiction.

Henry VIII. enacted, that surgeons should be ordained by the bishop of the diocese, in the same manner as physicians. || Edward IV. had incorporated the barbers and the surgeons into one company, but it appears that in the time of Henry VIII. there was still a company of persons exercising the "mystery and craft" of surgery, who did not at the same time practise the "feats and crafts of barberie and shaving." ¶ These two companies of surgeons and barber-surgeons were

* 3 Henry VIII. c. 2.

§ 32 H. VIII. c. 40.

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† 14 15 H. VIII. c. 5.

|| 3 H. VIII. c. 2.

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‡ Ibid.

¶ 32 H. VIII. c. 42.

therefore united, "to the intent that by their union, and often assembly together, the good and due order, exercise, and knowledge, in the said science and faculty of surgery, should be as well in speculation as in practice; and by their learning and diligent and ripe informations more perfect, speedy, and effectual remedy should be, than it hath been, or should be, if the said two companies of barbers and surgeons should continue severed asunder, and not joined together, as they before this time have been, and used themselves not meddling together."* Having united the surgeons and barber-surgeons, the same monarch separated the practice of barberry from that of surgery, and ordained that no person using any barberry or shaving "should occupy any surgery, letting of blood, or any other thing belonging to surgery (drawing of teeth onely except)," because in those days "persons using of the mystery or faculty of surgery, oftentimes meddle and take into their cure and houses such sick and diseased persons as have been infected with the pestilence, great pocks, and such other contagious infirmities do use or exercise barberry, as washing or shaving, and other feats thereunto belonging, which is very perilous for infecting the king's liege people, resorting to their shops and houses, there being washed or shaven."† Those of the company who practised surgery were in like manner interdicted from the feats of barberry, and were compelled to place a sign at their doors, and to be freemen of the city of London. The members of the company were exempt from bearing arms, from being on watches and inquests; they were allowed to choose masters and wardens, to dissect yearly four bodies, and it was graciously made lawful for them to become the valets and servants of any of the king's subjects who were not barbers or surgeons. Physicians were allowed to practise surgery, but surgeons in no wise to exercise physic. Although surgeons were prohibited from practising physic, it was nevertheless ordained by act of parliament that "divers honest persons, as well men as women, whom God hath endued with a knowledge of the nature, kind and operation of certain herbs, roots, and waters, to customable diseases," should be allowed to use and minister the same, according to their "cunning, experience, and knowledge;"‡ so that in fact this branch of the profession was rendered subservient to every other, a circumstance which was probably rendered necessary by the con-

* H. VIII. c. 12.

† Ibid.

‡ Stat. H. VIII.

duct of the surgeons whom we find represented as in those days "minding onely their own lucres, and nothing the profit and ease of the diseased," for it was "well known that the surgeons admitted will do no care to any person but where they know to be rewarded with a greater sum or reward than the cure extendeth unto."* The power of the College of Physicians over the surgeons was decided and arbitrary. The latter were not permitted to administer inward medicines in any disease whatever, and many surgeons were fined and imprisoned for infringing upon the rights of the physicians. In the reign of Elizabeth two surgeons, Joseph Smart and Edward Messenger,† were each fined five pounds for giving purging potions to patients in surgical cases. In the time of James I. William Foster, a surgeon in Fenchurch Street, was censured for selling a powder for the green sickness,‡ and Peter Chamberlayne was fined and imprisoned, notwithstanding the intercession of the Lord Mayor, for selling a few medicines.§ During the reign of Charles I. Thomas Cooke, surgeon, for prescribing a few mercurial pills, was obliged to give security by bond of a hundred pounds "not to practise in the same way of fluxing by mercury."|| Thomas Bowden was discommoded for giving a purge and diet drink to a patient for the morbus gallicus,¶ and Edward Owen was fined, advertised, and imprisoned, for giving mercury, and causing "superpurgation."** Dowton, a surgeon, was fined five pounds, and required to give a bond for two hundred pounds not to practise midwifery, which he had previously done; †† and one Brown, a surgeon, was fined fifty pounds for *praxis pessima*, giving internal medicines for diseases of the eyes.‡‡ The list of surgeons fined and imprisoned by the censors, *propter malum et illicitum praxim et immodestos mores*, is immense, and many were detained until liberated by a *habeas corpus*, although they frequently brought their patients with them to attest the external cures which they had wrought with internal remedies. Some surgeons indeed who had been severely han-

* 34, 35 H. VIII. In the reign of James II. "Thomas Greenwood, surgeon, was accused by one William Adams, that for the grief of a little skin rabb'd off with his saddle in riding, he promised cure in four days, but physick'd him a fortnight, gave him diet drunks, purged and over-heated him, and then sued him for twenty pound for the cure. The censors order'd his imprisonment, and a mulct of five pounds to be inflicted upon him." Goodall's Account of the Proceedings of the College of Physicians, p. 395.

† Goodall's Account of the Proceedings of the College of Physicians, p. 346.

‡ Ibid. p. 363.

§ Ibid. p. 367.

|| Ibid. p. 423.

¶ Ibid. p. 425.

** Ibid. p. 333.

†† Ibid. p.

‡‡ Ibid. p. 384.

- died by the college, disputed their right to interdict the practice of physic by surgeons in surgical cases; and to levy such unmerciful fines and imprisonments. Among these were two men named Jenkins and Read, who having been six several times "fined in small mulcts," and at length imprisoned, procured a writ of *corpus cum causa* from Sir John Popham, then head chief justice of England, in order to a full hearing of their cause. The chief justice, however, after fully investigating the powers of the college, decided, that in surgical cases, where internal remedies are necessary, a physician was to be called, it being on no such account lawful for the surgeon to invade the physician's province. He confirmed also all the powers of the college, and summed up his opinion by determining that "*no surgeon, as a surgeon, may practise physic, no, not for any disease, though it be the great pox.*"* In the year 1595 the College of Physicians sent to the surgeons a friendly letter, to admonish them to abstain wholly from the practice of medicine, which they were compelled to attend to, and which cramped their operations so much, that in a few years afterwards they presented a petition to parliament, to procure an authority for prescribing inward as well as outward medicines in wounds, ulcers, and the French pox. Through the influence of the physicians, however, this petition was rejected, to the no small regret and disappointment of the one party, and the great gratification of the other, who treated the unfortunate petitioners with great resentment and contempt. Such was the abject condition of the surgeons until very recent times, when by act of parliament they were liberated from the company of barbers, and erected into a royal college, enjoying various privileges and powers independent of the other branches of the profession, but still so far amenable to the rights of the physicians, that at this day it is not decided how far surgeons have a right in any case to interfere with the practice of medicine.

The condition of the apothecaries was not less humiliating than that of the surgeons. The apothecaries and the grocers were formerly one corporation, and tea and rhubarb were bought at the same shop. In the thirteenth year of the reign of James I. the two corporations were separated by law, and the right of preparing and selling medicine was vested solely in the apothecaries' company, and every grocer was restrained

* Goodall's Account of the Proceedings of the College of Physicians, p. 344.

from dispensing medicines, by a penalty of five pounds for every month during which he continued the practice. This, however, was the only division of the healing-art which the law allowed the apothecaries to perform; they were only the lower limbs of the body medical; the College of Physicians was the sensorium, and the former were to be moved and guided only by their judgment and volitions. They were indeed erected into a company, and endowed with the privileges belonging to similar bodies, such as a power to have a seal, to buy lands and choose their own officers, but in all matters concerning medicines they were obliged to consult with the president and four censors of the College of Physicians, who alone could admit members into the company. The physicians were empowered to examine the shops of apothecaries, and to call in the aid of magistrates to enable them to burn and destroy any "evil and faulty stuff" which they might find therein, and every apothecary resisting such search, was fined ten pounds. They were obliged to deliver to the president and censors the prescriptions of all practitioners who were not members of the college, and were allowed to sell no poisonous drug, unless ordered by some learned physician. The only remedies which it was lawful for apothecaries to prescribe were a few herbs, roots, and waters, and in doing this they only availed themselves of the statute which tolerated the administration of such medicines by old women and magicians, for they were prohibited from the practice of physic, by an act in the third year of Mary. In the reign of Charles I. they infringed so much upon the privileges of the college that the latter presented a petition to the king, praying that a royal edict might be issued, that under the most severe penalties no apothecary should dare "to compound for the well or administer to the sick any medicine without the prescription of physician then living," and that he that should act contrary should "be punished by the law as a public enemy of the life of man."* The physicians did not fail to exercise the power which the law had placed in their hands, and they used it with so much rigour in those days, that an apothecary could not from his own opinion administer a clyster without danger of fine and imprisonment. In the thirty-seventh year of Elizabeth "William Chetley, an apothecary in Bishopsgate Street, having given a lenitive clyster, bolus, and pills, with-

* Goodall's Account of the Proceedings of the College of Physicians, p. 437.

out the advice of a physician, was fined by the censors, and had likewise been committed to prison for his illegal practice but that some of the fellows interceded for him.* In the reign of James I. Mr. Holland, an apothecary, was fined five pounds for practising medicine, and ordered to be imprisoned without present satisfaction to the college.† George Hough-ton, an apothecary, was accused of giving pills to a Mr. Robert Roe, counsellor at law, to which his death was attributed, on which occasion the censors declared that it was altogether unlawful for him to give pills or any other medicine without the counsel of some approved physician: on a repetition of the same offence the censors fined him twenty pounds and committed him to Newgate.‡ In the same reign Abraham Hayobert, another apothecary, was for a similar offence fined five pounds, and committed to prison.§ In the time of Charles I. one Buggs, an apothecary, was prosecuted by the college, for giving divers medicines and clysters, though he had a degree from the university of Leyden: he was fined fifty pounds and imprisoned in the Fleet; nor would the Lord Chief Justice grant him a *habeas corpus*, unless with the consent of the College of Physicians, at whose suit he was prosecuted.|| In the same reign many apothecaries were summoned before the college, and on being convicted of practising medicine, were fined, dicommuned, or imprisoned.

We have presented to our readers this brief history of medical politics, to enable them to judge in whom the exercise of the different branches of our profession is vested by law. The powers of the College of Physicians have undergone no diminution, and at this time the practice of the apothecary is as much subjected to the dominion of that body as it was in the days of James or Mary. The arbitrary rights of the former were probably expedient in those times, when it was judged necessary to render the communion with gipsies an act of felony, and when the country was inundated with superstition, witchcraft, and empiricism. But a change of circumstances has in this, as in many other branches of legislature, rendered the execution of those powers unnecessary, and their existence tends only to give a character of aristocratic tyranny to a most important and indispensable establishment. That their reformation is necessary we are therefore decidedly of opinion, but that the inferior branches of our profession should be subjected to the

* Goodall's Account of the Proceedings of the College of Physicians, p. 346.

† Ibid.

‡ Ibid. p. 403.

§ Ibid.

|| Ibid. p. 415.

judgment of their more enlightened brethren, appears to us as expedient as that the conduct of the lower orders of society should be regulated by that of their superiors.

The commotion which exists among the apothecaries of this metropolis, has for its object a complete revolution in the executive department of our profession. The apothecaries, originally the grocers, and subsequently the druggists through the tolerance of the College of Physicians, have long been in the habit of prescribing as well as compounding medicines. They now claim remuneration for their opinions, and consequently their conversion into a species of physician. They have been roused by the new duty on glass, by which a phial of medicine, which costs the patient three or four shillings, costs them an additional three halfpence; they complain that their income has been diminished by the druggists dispensing medicines, which is the lawful and exclusive right of the former; they contend, that as the apothecary sees more patients his skill must be greater than that of the physician; they claim to be paid for their opinions as the only means of being remunerated for their services, without loading their patients with unnecessary drugs, a practice to which they at present plead guilty, and they have now formed themselves into a committee for the purpose of petitioning parliament that they may be legally authorised to demand it.

It appears both by law and established custom that the preparation of prescriptions is vested solely in the company of apothecaries, and consequently the druggists have no legal right to dispense medicines; * the apothecaries have, however, as little right to prescribe them, and it is easy to perceive what must become of the complaint of the latter against the former, when they threaten to employ as a weapon against others that law which they are violating both in letter and in spirit. Forgetting for a moment the legality of the case, we shall briefly consider the consistency of their present demands.

The apothecaries may justly be considered as the executive

* In the reign of Elizabeth several druggists were summoned before the college, and severely rebuked for exposing medicines to sale, without their approbation. Others were punished for the ill preparation of medicines; "amongst whom," says Goodall, "one Edward Stephens, a sweet grocer (that he might be released from his imprisonment for obstinately refusing to appear upon the president's summons) of his own accord fell down upon his knees before the president, and humbly begged pardon of the queen's majesty for his disobedience of the president of the college, the Lord Cobham and several others being pre-

agents of our profession, and in this point of view their importance cannot be questioned. The benefit which a patient may derive from the skill of a physician, depends entirely upon the proper administration of the remedies that are suggested by the latter; it is therefore of the greatest importance that they be prepared and employed under the superintendence of a person qualified to judge of the composition and its effects. The education and habits of the physician render him incompetent to this office, and the druggist is as little interested in the preparation of the remedy as the nurse is acquainted with its proper administration. Hence arises the necessity of the middle race of "mixed practitioners," whose legitimate office we conceive to be to superintend the composition and administration of those remedies that are prescribed by the physician. They also perform another important office in satisfying the mind of the patient with regard to a number of minor points, which are frequently unnoticed by the physician. During a long illness, which confines the patient to his room, the day seems an age; the mind requires periods of rest and expectation, and the frequent visits and draughts of the apothecary, serve, like mile-stones to the traveller, to lessen the wearisomeness of the way. Without these means it would often also be difficult to keep up that faith in the curative regimen which some of the wisest of the profession have agreed to consider as one of the chief uses of medical attendance. The education of the apothecary fully accomplishes him for this office, but is it such as renders him competent to tread in the higher walks of the profession, to investigate the subtle changes, and to conduct the varied treatment of the more complicated forms of disease? We decidedly think that the common training of an apothecary does not qualify him for this important office, for his library generally consists of little more than pharmacopœias and files of prescriptions, and his acquirements are restricted to mysterious manners and an insinuating address. There unquestionably exist in this metropolis a number of practitioners in this department, who combine sound professional knowledge with mature experience and general education, but we allude now to the horde of pharmacopœists by whom we are surrounded, and more especially to those practitioners in the country,* who, being separated

* The following advertisement, which appeared a few weeks ago in a provincial newspaper, shews the degraded condition of many apothecaries' apprentices, for there is too much reason to believe that the majority of country

from all sources of information, and educated in the most servile habits, exercise only the craft of the profession. Until therefore, the education of the apothecaries is completely reformed, until they study the science which they claim a right to practise, we are decidedly adverse to the abolition of that controul which can restrict ignorance and punish empiricism. Let the education of the apothecary combine a knowledge of the practice of medicine, anatomy, physiology and pathology, and let examinations ascertain their acquaintance with these sciences, and we then see no objection to their employment as a species of sub-physician; for their acquirements will enable them to fulfil the duties of that station with credit to themselves and advantage to their patients. We are decidedly adverse to all plans of reform which would diminish the number of medical practitioners, for the public is certainly benefited by their existence in every part of the empire. Although their want of education, often leads to the most lamentable errors, they afford conveniencies which could not be destroyed without diminishing considerably the public comfort. We are now therefore, only advocating the expediency of more perfect knowledge and education, and not the abolition of any class of practitioners.

The apothecaries contend that they ought to be paid for their opinions as well as for their drugs, as the only means of preventing them from overloading their patients with medicine. But would the establishment of this custom remedy the evil which is so justly complained of? We are confident it would not, and that it would only render medical attendance more oppressive upon the public. An opportunity for insinuating a few more draughts or pills, would be too inviting to be neglected because the time and advice of the attendant were otherwise remunerated, and the lower order of apothecaries, who are so notoriously mercenary, would avail themselves of the regulation as a mode of extraordinary emolument, to the great disadvantage and oppression of the patient. The

practitioners undergo a similar initiation. Can it be conceived that a mind which has been debased by habits so servile, and adverse to every thing like science and literature, is capable of imbibing the knowledge which is indispensable to a proper exercise of our profession?

"Wanted immediately, a youth about 12 or 14 years of age, (of moral parents) as an apprentice to a surgeon and apothecary; as he will be expected to look after a horse for the first four years, but a small premium will be expected. Apply at Edmunds and Smith's, No. 50, High Street."

Birmingham Gazette, Sept. 28; 1811

most consistent regulation would be to adopt the custom which has become so general in Scotland, of charging a fixed sum for every visit, and reducing the price of medicines to the rates employed by druggists. The public would then derive no advantage from sending their prescriptions to the latter, and the labour of the apothecary, and the benefit of his advice, would be sufficiently remunerated. As to the proposal of restricting the druggists from preparing prescriptions, it is perfectly absurd, because it is establishing a monopoly, and abridging the liberty of the public.

The pamphlets before us will have but little influence upon the subject, because they view but one side of the question, and are therefore deficient in candour and information. In the title-page of the "*Independent Practitioner*," we behold the cloven foot of *Doctor Richard Reece*. We caution this said *Doctor* from obtruding himself upon the notice of the college, lest he be served, as was of old one counterfeit physician, named *Grig*, who for his deceitful and hypocritical dealings, being set on a horse, with his face to the tail, the same tail in his hand as a bridle, a collar of jordans about his neck, and a whetstone on his breast, was banished from the city with ringing of basons.* If empiricism give any claim to the condescending notice of the college, our modern Gad-desen is fully entitled to be made the *Grig* of a spectacle so truly comic. "Such deceivers," saith Stow, "no doubt there are many, who, being never trained up in reading or practice of physick and chirurgery, do boast to doe great cures; especially upon women, as to make them straight as before were crooked, corbed or crumpled in any part of their bodies. But the contrary is true, for some have received gold when they have better deserved the whetstone."†

* * Goodall's Account of the Proceedings of the College of Physicians, p. 306.

† Stow's Chronicles—Anno 1582.

MEDICAL AND SURGICAL INTELLIGENCE.

CONSISTING OF ORIGINAL DESCRIPTIONS OF VARIETIES IN
THE APPEARANCE AND TREATMENT OF DISEASE.

(Communications are requested to be addressed to the Editors,
at Mr. Underwood's, 20, West Smithfield, London.)

ART. I. *Case of Spina Bifida.* Communicated by Wil- liam Cother, Esq. Surgeon, Gloucester.

John Keen, aged 13 years, has the remains of a tumor upon his loins, of which the following is the history. At the time of birth a swelling of considerable size was observed in the situation of the lumbar vertebrae, which contained a quantity of bloody fluid, enclosed in a sac so thin as to transmit the rays of light. The tumor increased for about a month and then burst, discharging a considerable quantity of humor. It was poulticed for some weeks, when the sac contracted, the opening closed, and has continued so from that time, excepting that occasionally a trifling excoriation takes place in one part from which are discharged a few drops of serum and the surface speedily heals. The remains of the sac are now visible on the loins, and consist of an irregular puckering of the skin, about as large as a dollar, elevated about an inch from the surrounding parts. There is a very evident deficiency in the spinous processes of the lumbar vertebrae, but he complains of pain in the centre of the tumour, which prevents particular investigation. There is a great irregularity in the situation

of the spine, the position superior to the tumour being carried considerably to one side of the straight line. He has occasionally violent attacks of pain in the head, which in a great measure destroy his mental faculties. His vision is imperfect, but the eyes do not exhibit any marks of pressure upon the brain by dilatation of the pupils.

The lower extremities are completely paralysed. The boy scalded one of his legs some time ago, which went through all the processes of reparation without pain or even consciousness. There at present exist two large florid ulcers on his buttocks, of which also he is unconscious. The involuntary discharge of his urine has caused excoriation of the posterior part of the thighs, of which he complains as being extremely painful. His condition has undergone but little alteration for the last three years. He appears out of health, and his mental faculties are much impaired.

Art. II. An Account of some Insects expelled from the Lungs by coughing. Communicated by the Editors.

A middle-aged lady, very thin, of an irritable disposition, and of the nervous temperament, was for several weeks confined by a distressing cough and great difficulty of breathing, accompanied with a profuse discharge of thin, frothy mucus. The appetite during the whole period of the disease was much impaired, a sense of sinking at the pit of the stomach was frequently complained of, and the bowels were very torpid. The alvine evacuations had frequently a clayey appearance, and were offensive: at other times they were either dark or bilious in colour. The urine was scanty, and of a deep colour. About a month before her decease, after a fit of coughing unusually severe, four insects were discovered in the mucus which had been expelled: they were so completely enveloped in a white fibrous substance, that they were not immediately perceived, but having disentangled themselves from their covering, and moving through the fluid with considerable activity, they were soon perceived by the patient. The length of the largest was nearly three fourths of an inch, and the breadth about two lines: they were nearly colourless, and the body appeared to be composed of parallel plates, shorter near each extremity of the insect, situated at a small distance from each other, and connected by two transparent fibres.

They had six feet, and had also short projections from the head, like the antennæ of the millipedes. Similar insects of a very small size were once afterwards discharged in the same way. Permission to examine the lungs after death could not be obtained.

Art. III. On the use of Soda Acetata. Communicated by
a Correspondent.

A saline compound formed by the combination of acetic acid and soda, has been recently employed by some practitioners in the metropolis, with considerable advantage as an aperient medicine. The salt which has hitherto been used, was the residuum of a process conducted in the large way, and afterwards re-dissolved and crystallized by an able chemist in the city. This salt is very soluble, and when taken into the mouth produces an agreeable sweetness, with a sensation slightly resembling that of nitrate of potash. Dissolved even in a small quantity of water it is rather pleasant to the taste; at least it would in that respect be objectionable to very few. In its action on the bowels it appears to exert a power nearly double that of magnesia vitriolata, and so far as it has yet been tried, exhibits less tendency to occasion flatulency and uneasiness during its operation. The smallness of quantity, not less than the degree of sweetness which it possesses, must render it upon many occasions, especially in the medical management of children, an useful addition to the stock of purgatives. Whether it exerts any of the diuretic influence of the acetate of potash, or the diaphoretic influence of the acetate of ammonia, has not yet been determined. Future experiments may perhaps discover, that a saline substance prepared under the direction of the late Dr. Hunter of York, and sold there with many extravagant and empirical encomiums under the name of Brazil salts, is a compound of acetic acid and soda; and not as generally conjectured on account of its sweetness, soda tartarizata, or Rochelle salt, crystallized after solution in an infusion of liquorice root.

QUARTERLY LIST OF NEW MEDICAL PUBLICATIONS.

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ERRATA.

Page 148 line 10,	for valtable, read vulnerable.
149	36, for fecuntur, read feruntur.
152	8, dele <i>Ovocua</i> .
	9, for <i>Diocria</i> , read <i>Diceras</i> .
	37, for is, read arc.
153	37, for <i>contincun</i> , <i>sine augustori assertus</i> , read <i>continuus sine angustiori apertus</i> .
155	22, for had, read has.
	45, for vestina, read Vestena; and for bolca, read Bolca.
156	24, for state, read slate.
157	4, for supposed, read suppose.
	8, for vertebrae, read vertebra.
	23, for Knox, read Knorp.
158	20, for these, read there.
	32, for Harfleur, read Honfleur.
159	1, for Houfleur, read Honfleur.
	9, for iguanas, read iguanas.
	17, for <i>Lacuta</i> , read <i>Lacerta</i> .
	28, for <i>Proctus</i> , read <i>Proteus</i> .
	31, for Archstedt, read Aichstedt.
	36, for Vestura, read Vestena.
160	8, for <i>alonette</i> , read <i>alouette</i> .
	23, for monsters, read manites.
161	40, for RÈUNE, read RENNE.
162	39, for <i>aiurock</i> , read <i>turoch</i> .
164	4, for Fufjas, read Fanjas.
	19, for Dumenil, read Dumeril.
164	40, for Simone, read Simorre.
165	22, for pachydumata, read pachydermata.
	29, for Human, read Herman.
166	24, for <i>Lajourys</i> , read <i>Lagomys</i> .
	40, for <i>jagnar</i> , read <i>jaguar</i> .
167	4, for <i>Cans</i> , read <i>Canis</i> .
	5, for <i>Vivena</i> , read <i>Vicerva</i> .
209	40, for orthocuatites, read orthoceratites.
210	28, for Fistula, read Fistulana.
215	23, after has, insert not.
	39, for ficus, read ferns.
219	11, for these, read there.

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THIRD VOLUME

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